

35	40	45
Asp Ser Arg Glu Arg Ile Pro Phe Leu Met Lys Lys Thr Ala Ser Ile		
50	55	60
Glu Thr Ile Val Val Ser Asn Glu Thr Glu Ala Leu Leu Leu Glu Asn		
65	70	75
Asn Leu Ile Lys Gln His His Pro Lys Tyr Asn Val Leu Leu Lys Asp		
85	90	95
Asp Lys Thr Phe Phe Cys Leu Ala Ile Ser Leu Ser His Ser Trp Pro		
100	105	110
Lys Val Glu Ala Ile Arg Thr Lys Ala Ile Thr Ser Ser Gln Arg Gln		
115	120	125
Leu Ile Phe Gly Pro Tyr Val Ser Ala Glu Ala Cys His Thr Leu Leu		
130	135	140
Glu Val Ile Ser Gln Trp Phe Pro Leu Arg Thr Cys Ser Asp Arg Glu		
145	150	155
Phe Ala Leu Arg Lys Arg Pro Cys Ile Leu Tyr Asp Met Lys Arg Cys		
165	170	175
Leu Ala Pro Cys Val Gly Tyr Cys Thr Pro Glu Glu Tyr Gln Gly Thr		
180	185	190
Leu Asp Lys Ala Ile Leu Phe Leu Lys Gly Lys Ile Glu Glu Val Val		
195	200	205
Lys Asp Leu Glu Lys Val Ile Gln Lys Ala Ser Asp Asn Leu Glu Phe		
210	215	220
Glu Gln Ala Ala Asn Tyr Tyr Arg Thr Leu Ser Leu Ile Lys Gln Ala		
225	230	235
Met Ala Lys Gln Gln Val Glu Lys Phe His Phe Gln Asn Ile Asp Ala		
245	250	255
Leu Gly Leu Tyr Arg His Lys Gln Arg Thr Ile Leu Thr Leu Leu Thr		
260	265	270
Val Arg Ser Gly Lys Leu Leu Gly Ala Arg His Phe Ser Phe Phe Glu		
275	280	285
Asn Ala Gln Glu Asp Gln Asp Leu Leu Ser Ser Phe Ile Leu Gln Tyr		
290	295	300
Tyr Val Ser Gln Pro Tyr Ile Pro Lys Glu Ile Leu Thr Pro Leu Pro		
305	310	315
Leu Glu Phe Pro Thr Leu Ser Tyr Val Leu Asn Ala Glu Ser Pro Pro		
325	330	335
Arg Leu Arg Ser Pro Lys Thr Gly Tyr Gly Lys Glu Leu Leu Asp Leu		
340	345	350
Ala Tyr Arg Asn Ala Lys Ala Tyr Ala Ala Thr Thr Leu Pro Ser Ser		
355	360	365
Ser Ser Pro Thr Lys Thr Leu Arg Ile Ile Leu Arg Met Ser Gln Tyr		
370	375	380
Pro Tyr Arg Ile Glu Cys Tyr Asp Asn Ala His Met Gln Gly Ala His		
385	390	395
Ala Thr Gly Val Tyr Ile Val Phe Glu Asn Asn Gly Phe Asp Pro Lys		
405	410	415
Gln Tyr Arg Thr Phe Ser Ile Asp Ser Glu Lys Thr Gln Asn Asp Leu		
420	425	430
Ala Leu Leu Glu Glu Val Leu Leu Arg Arg Phe His Ser Leu Thr Thr		
435	440	445
Ala Leu Pro Asp Met Ile Val Val Asp Gly Gly Lys Thr His Tyr Asn		
450	455	460
Lys Thr Lys Lys Ile Ile Gln Thr Leu Asn Leu Thr Gly Ile Gln Val		
465	470	475
Val Thr Ile Ala Lys Glu Lys Ser Asn His Ser Arg Gly Leu Asn Lys		
485	490	495
Glu Lys Ile Phe Cys Glu Thr Phe Pro Glu Gly Phe Ser Leu Pro Pro		
500	505	510
Thr Ser Asn Leu Leu Gln Phe Phe Gln Ile Leu Arg Asp Glu Ala His		
515	520	525
Arg Phe Ala Ile Ser Lys His Arg Lys Lys Arg Gly Lys Ala Leu Phe		
530	535	540
Glu Gln Glu Lys Ile Pro Gly Ile Gly Glu Val Lys Arg Lys Arg Leu		

545 550 555 560  
 Leu Gln Lys Phe Lys Ser Trp Lys Gln Val Met Leu Ser Ser Gln Glu  
 565 570 575  
 Glu Leu Glu Ala Ile Pro Gly Leu Thr Lys Lys Asp Ile Ala Val Leu  
 580 585 590  
 Leu Ala Arg Gln Lys Asp Phe Asn Lys Ser Asp  
 595 600  
 <210>1012  
 <211>481  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1012  
 Gly Asp Pro Cys Thr Ser Arg Cys Cys Arg Ile Phe Leu Arg Gln Val  
 1 5 10 15  
 Thr Leu Arg Lys Asn Ile Lys Thr Tyr Leu Cys Gln Val Arg Asp Ile  
 20 25 30  
 Glu Arg Leu Met Thr Lys Val Thr Thr Gly Leu Ala Gly Pro Arg Asp  
 35 40 45  
 Ile Gly Thr Leu Arg Asp Ser Phe Ser Ala Gly Ala Gln Ile Tyr Glu  
 50 55 60  
 Gln Leu Ala Ser Ala Thr Leu Pro Glu Phe Phe Ile Asp Lys Cys Ser  
 65 70 75 80  
 Leu Asp Thr Lys Leu Ala Ser Leu Ile Ala Leu Leu Ser Lys Ser Leu  
 85 90 95  
 Asn Gly Asp Leu Pro Leu Arg Val Ser Asp Gly Asn Ile Phe Val Asp  
 100 105 110  
 Glu Phe His Asn Asp Leu Lys Arg Leu Arg His Asn Gln Glu His Ser  
 115 120 125  
 Gln Glu Trp Ile Trp Glu Tyr Gln Glu Arg Ile Arg Lys Glu Thr Gly  
 130 135 140  
 Ile Lys Lys Leu Lys Ile Cys Phe Ala Gln Ala Leu Gly Tyr Tyr Ile  
 145 150 155 160  
 Glu Val Ser Ser Glu Phe Ala Pro Gln Leu Pro Lys Asp Phe Ile Arg  
 165 170 175  
 Arg Gln Ser Arg Leu His Ala Glu Arg Phe Thr Thr Ile Glu Leu Gln  
 180 185 190  
 Gln Phe Gln Asp Asp Met Ser Asn Ile Ser Glu Lys Leu Gln Thr Leu  
 195 200 205  
 Glu Thr Gln Phe Phe Lys Asp Leu Cys Ser His Ile Leu Gln Leu Arg  
 210 215 220  
 Thr Glu Ile Leu Ala Leu Ser Gln Ser Leu Ala Asp Leu Asp Tyr Ile  
 225 230 235 240  
 Ile Ser Leu Ala Asp Leu Ala His Ala Gln Gly Tyr Cys Arg Pro Arg  
 245 250 255  
 Val Asp Met Ser Asp Thr Leu Cys Ile Tyr Arg Gly Cys His Pro Val  
 260 265 270  
 Ala Lys Thr Leu Val Asp Thr Gly Lys Phe Ile Pro Asn Asp Thr Glu  
 275 280 285  
 Met Arg Gly Ser Gln Thr Arg Met Ile Leu Leu Thr Gly Pro Asn Met  
 290 295 300  
 Ala Gly Lys Ser Thr Tyr Ile Arg Gln Ile Ala Leu Leu Val Ile Met  
 305 310 315 320  
 Ala Gln Met Gly Ser Tyr Ile Pro Ala Lys Ser Ala His Ile Gly Val  
 325 330 335  
 Ile Asp Lys Ile Phe Thr Arg Ile Gly Ala Gly Asp Asn Leu Ser Lys  
 340 345 350  
 Gly Met Ser Thr Phe Met Val Glu Met Ala Glu Thr Ala Asn Ile Leu  
 355 360 365  
 His Asn Ala Thr Asp Arg Ser Leu Val Ile Leu Asp Glu Val Gly Arg  
 370 375 380  
 Gly Thr Ser Thr Tyr Asp Gly Leu Ala Ile Ala Gln Ala Val Val Glu  
 385 390 395 400  
 Tyr Leu Leu Phe Thr Asp Lys Lys Lys Ala Lys Thr Leu Phe Ala Thr  
 405 410 415

His Tyr Lys Glu Leu Thr Thr Leu Glu Asp His Cys Pro His Val Glu  
 420 425 430  
 Asn Phe His Ala Gly Val Lys Asp Lys Ala Gly Gln Pro Val Phe Leu  
 435 440 445  
 Tyr Glu Ile Leu Lys Asp Ile His Lys Lys Val Ser Ala Phe Met Ser  
 450 455 460  
 Pro Gly Leu Leu Ala Phe Pro Phe Val Trp Tyr Arg Glu Leu Ser Arg  
 465 470 475 480  
 Ser

&lt;210&gt;1013

&lt;211&gt;339

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1013

Val Met Thr Glu Lys Lys Pro Thr Pro Met Met Glu Gln Trp His Gln  
 1 5 10 15  
 Cys Lys Glu Lys Ala Gly Asp Ser Val Leu Leu Phe Arg Met Gly Asp  
 20 25 30  
 Phe Tyr Glu Ala Phe Tyr Asp Asp Ala Val Leu Leu Ser Gln His Leu  
 35 40 45  
 Glu Leu Thr Leu Thr Gln Arg Gln Gly Ile Pro Met Ser Gly Ile Pro  
 50 55 60  
 Val Ser Thr Val Asp Thr Tyr Val Asp Arg Leu Ile Gly Lys Gly Phe  
 65 70 75 80  
 Lys Val Ala Val Ala Glu Gln Phe Gly Glu Pro Ala Lys Glu Lys Glu  
 85 90 95  
 Ser Lys Lys Ile Gly Pro Met Ala Arg Asp Ile Gln Arg Phe Val Thr  
 100 105 110  
 Pro Gly Thr Leu Leu Ser Ser Thr Leu Leu Gln Glu Lys Phe Asn Asn  
 115 120 125  
 Xaa Ile Val Ala Ile Thr Arg Ile Gly Ser Leu Phe Gly Phe Ala Cys  
 130 135 140  
 Leu Asp Leu Ser Thr Gly Ser Phe Phe Ile Glu Glu Cys Glu Asn Thr  
 145 150 155 160  
 Lys Glu Leu Val Asp Glu Ile Cys Arg Leu Ala Pro Ser Glu Val Leu  
 165 170 175  
 Ser Cys Asn Lys Phe Tyr Asn Lys Glu Thr Ala Ile Val Met Gln Leu  
 180 185 190  
 Gln Gln His Leu Lys Leu Thr Leu Ser Thr Tyr Ala Asp Trp Ala Phe  
 195 200 205  
 Glu His Lys Phe Ala Ser Gln Lys Leu Thr Thr His Phe Gln Val Ala  
 210 215 220  
 Ser Leu Asp Gly Phe Gly Leu Lys Gly Leu Val Pro Ala Ile Asn Ala  
 225 230 235 240  
 Ala Gly Gly Leu Leu Ser Tyr Ile Gln Asp Lys Leu Leu Leu Pro Thr  
 245 250 255  
 Lys His Ile Ala Ile Pro Gln Thr Arg Gly Lys Gln Gln Lys Leu Leu  
 260 265 270  
 Ile Asp Thr Ala Ser Gln Val Asn Leu Glu Leu Leu Ala Pro Leu Asn  
 275 280 285  
 Asp Pro Gln Gly Lys Asn Ser Leu Leu Arg Ile Met Asp His Thr Ser  
 290 295 300  
 Thr Pro Met Gly Gly Arg Leu Leu Arg Gln Ile Leu Ile Ser Pro Phe  
 305 310 315 320  
 Tyr Asn Pro Lys Glu Ile Leu Val Arg Gln Asp Ala Val Glu Phe Phe  
 325 330 335  
 Phe Gly Lys

&lt;210&gt;1014

&lt;211&gt;207

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1014

Leu Arg Thr Ala Met Tyr Thr Glu Glu Ser Leu Asp Asn Leu Arg His  
 1 5 10 15  
 Ser Ile Asp Ile Val Asp Val Leu Ser Glu His Ile His Leu Lys Arg  
 20 25 30  
 Ser Gly Ala Thr Tyr Lys Ala Cys Pro Phe His Thr Glu Lys Thr  
 35 40 45  
 Pro Ser Phe Ile Val Asn Pro Ala Gly Ala His Tyr His Cys Phe Gly  
 50 55 60  
 Cys Gly Ala His Gly Asp Ala Ile Gly Phe Leu Met Gln His Leu Gly  
 65 70 75 80  
 Tyr Ser Phe Thr Glu Ala Ile Leu Val Leu Ser Lys Lys Phe Gln Val  
 85 90 95  
 Asp Leu Val Leu Gln Pro Lys Asp Ser Gly Tyr Thr Pro Pro Gln Gly  
 100 105 110  
 Leu Lys Glu Glu Leu Arg His Ile Asn Ser Glu Ala Glu Thr Phe Phe  
 115 120 125  
 Arg Tyr Cys Leu Tyr His Leu Pro Glu Ala Arg His Ala Leu Gln Tyr  
 130 135 140  
 Leu Tyr His Arg Gly Phe Ser Pro Asp Thr Ile Asp Arg Phe His Leu  
 145 150 155 160  
 Gly Tyr Gly Pro Glu Gln Ser Leu Phe Leu Gln Ala Met Glu Glu Arg  
 165 170 175  
 Lys Ile Ser Gln Glu Gln Leu His Thr Ala Gly Phe Phe Gly Asn Lys  
 180 185 190  
 Trp Phe Leu Phe Ala Arg Arg Ile Ser Phe Leu Ser Thr Met Arg  
 195 200 205

&lt;210&gt;1015

&lt;211&gt;402

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1015

Met Val Phe Val Cys Thr Lys Asn Leu Phe Pro Val His Asp Ala Leu  
 1 5 10 15  
 Gly His Thr Ile Gly Phe Ser Ala Arg Lys Phe Leu Glu Asn Ser Gln  
 20 25 30  
 Gly Gly Lys Tyr Val Asn Thr Pro Glu Thr Pro Ile Phe Lys Lys Ser  
 35 40 45  
 Arg Ile Leu Phe Gly Leu Asn Phe Ser Arg Arg Arg Ile Ala Lys Glu  
 50 55 60  
 Xaa Lys Val Ile Leu Val Glu Gly Gln Ala Asp Cys Leu Gln Met Ile  
 65 70 75 80  
 Asp Ser Gly Phe Asn Cys Thr Val Ala Ala Gln Gly Thr Ala Phe Thr  
 85 90 95  
 Glu Glu His Val Lys Glu Leu Ser Lys Leu Gly Val Leu Lys Val Phe  
 100 105 110  
 Leu Leu Phe Asp Ser Asp Glu Ala Gly Asn Lys Ala Ala Leu Arg Val  
 115 120 125  
 Gly Asp Leu Cys Gln Thr Ala Gln Met Ser Val Phe Val Cys Lys Leu  
 130 135 140  
 Pro Gln Gly His Asp Pro Asp Ser Phe Leu Met Gln Arg Gly Ser Ser  
 145 150 155 160  
 Gly Leu Ile Ala Leu Leu Glu Gln Ser Gln Asp Tyr Leu Thr Phe Leu  
 165 170 175  
 Ile Ser Glu Lys Met Ser Ser Tyr Pro Lys Phe Gly Pro Arg Glu Lys  
 180 185 190  
 Ala Leu Leu Val Glu Glu Ala Ile Arg Gln Ile Lys His Trp Gly Ser  
 195 200 205  
 Pro Ile Leu Val Tyr Glu His Leu Lys Gln Leu Ala Ser Leu Met Met  
 210 215 220  
 Val Pro Glu Asp Met Val Leu Ser Leu Ala Asn Pro Gln Val Thr Ala  
 225 230 235 240  
 Glu Pro Gln Asn Ile Pro Ile Lys Gln Lys Val Pro Lys Ile His Pro  
 245 250 255  
 His Ile Val Met Glu Thr Asp Ile Leu Arg Cys Met Leu Phe Cys Gly



260 265 270  
 Ser Asn Thr Lys Ile Leu Tyr Thr Ala Gln Phe Tyr Phe Val Pro Glu  
 275 280 285  
 Asp Phe Lys His Pro Glu Cys Arg Lys Leu Phe Ala Phe Met Ile Ser  
 290 295 300  
 Tyr Tyr Glu Lys Tyr Arg Lys Asn Val Pro Phe Asp Glu Ala Cys Gln  
 305 310 315 320  
 Val Leu Ser Asp Ser Gln Ile Leu Gln Leu Leu Thr Lys Arg Arg Leu  
 325 330 335  
 Asn Thr Glu Ala Leu Asp Thr Ile Phe Val Gln Ser Leu Gln Lys Met  
 340 345 350  
 Ala Asp Arg Arg Trp Arg Glu Gln Cys Lys Pro Leu Ser Leu Asn Gln  
 355 360 365  
 Asn Ile Gln Asp Lys Lys Leu Glu Ile Leu Glu Asp Tyr Val Gln Leu  
 370 375 380  
 Arg Lys Asp Arg Thr Ile Ile Thr Leu Leu Asp Pro Glu Ser Glu Leu  
 385 390 395 400  
 Ile Pro

&lt;210&gt;1016

&lt;211&gt;120

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1016

Ile Lys Ile Met Met His Arg Tyr Phe Ile Pro Leu Leu Ala Leu Leu  
 1 5 10 15  
 Ile Phe Ser Pro Ser Leu Val Arg Ala Glu Leu Gln Pro Ser Glu Asn  
 20 25 30  
 Arg Lys Gly Gly Trp Pro Thr Gln Leu Ser Cys Ala Glu Gly Ser Gln  
 35 40 45  
 Leu Phe Cys Lys Phe Glu Ala Tyr Asn Asn Ala Ile Glu Glu Gly  
 50 55 60  
 Lys Pro Gly Ile Leu Val Phe Phe Ser Glu Arg Pro Thr Pro Glu Phe  
 65 70 75 80  
 Ala Asp Leu Thr Asn Gly Ser Phe Ser Leu Ser Thr Pro Ile Ala Lys  
 85 90 95  
 Gly Phe Asn Val Val Val Leu Cys Pro Gly Leu Ile Ser Pro Leu Asp  
 100 105 110  
 Phe Phe His Gln Asn Gly Ile Leu  
 115 120

&lt;210&gt;1017

&lt;211&gt;220

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1017

Ser Ile Phe Lys Asn Lys Ile Leu Pro Ser Tyr Phe Gly His Asn Phe  
 1 5 10 15  
 Asp Gln Leu Arg Arg His Tyr Met Arg Ile Ala Leu Ser Leu Leu Ser  
 20 25 30  
 Leu Leu Met Ile Phe Pro Ile Phe Gly Glu Glu Ser Arg Pro Gly Ser  
 35 40 45  
 Glu Asp Gly Asn Ser Asn Thr Gln Glu Ile Val Gly Ser Gln Asp Thr  
 50 55 60  
 Gln Val Cys Leu Tyr His Ser Tyr Glu Gln Gly Leu Gln Ala Ser Arg  
 65 70 75 80  
 Ile Glu Gly Lys Pro Leu Val Ile Val Val Leu Cys Asn Ser Gly Asp  
 85 90 95  
 Asp Gly Gln Ala Cys Thr Ile Gly Leu Ser Glu Thr Cys Glu Glu Val  
 100 105 110  
 Leu Ser Val Leu Ser Gly Ser Ile Phe Ser Glu Leu Ala Asn Phe Val  
 115 120 125  
 Val Leu Val Pro Ser Gly Val Asn Pro Leu Ile Tyr Pro Pro Ile Glu  
 130 135 140  
 Asp Pro Ile Leu Ala Glu Ile Val Lys Phe Lys Glu Leu Phe Lys Asp

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145          150          155          160
Glu Ser Phe Pro Thr Gly Leu Ser Ile Ile Val Val Gly Val Thr Pro
          165          170          175
Glu Gly Pro Gly Asp Ile Ile Glu Val Ser Pro Val Ser Leu Thr Val
          180          185          190
Glu Glu Glu Glu Thr Leu Pro Ser Glu Gln Thr Thr Glu Val Glu Ser
          195          200          205
Thr Ser Glu Leu Gln Ser Glu Asp Pro Ala Ile Ala
          210          215          220
<210>1018
<211>1014
<212>PRT
<213>Chlamydia pneumoniae
<400>1018
Leu Glu Ser Phe Val Ser Glu His Pro Leu Thr Leu Gln Ser Met Ile
  1          5          10          15
Ala Thr Ile Leu Arg Phe Trp Ser Glu Gln Gly Cys Val Ile His Gln
          20          25          30
Gly Tyr Asp Leu Glu Val Gly Ala Gly Thr Phe Asn Pro Ala Thr Phe
          35          40          45
Leu Arg Ala Leu Gly Pro Glu Pro Tyr Lys Ala Ala Tyr Val Glu Pro
          50          55          60
Ser Arg Arg Pro Gln Asp Gly Arg Tyr Gly Val His Pro Asn Arg Leu
          65          70          75          80
Gln Asn Tyr His Gln Leu Gln Val Ile Leu Lys Pro Val Pro Glu Asn
          85          90          95
Phe Leu Ser Leu Tyr Thr Glu Ser Leu Arg Ala Ile Gly Leu Asp Leu
          100          105          110
Arg Asp His Asp Ile Arg Phe Ile His Asp Asp Trp Glu Asn Pro Thr
          115          120          125
Ile Gly Ala Trp Gly Leu Gly Trp Glu Val Trp Leu Asn Gly Met Glu
          130          135          140
Ile Thr Gln Leu Thr Tyr Phe Gln Ala Ile Gly Ser Lys Pro Leu Asp
145          150          155          160
Thr Ile Ser Gly Glu Ile Thr Tyr Gly Ile Glu Arg Ile Ala Met Tyr
          165          170          175
Leu Gln Lys Lys Thr Ser Ile Tyr Asp Val Leu Trp Asn Asp Thr Leu
          180          185          190
Thr Tyr Gly Gln Ile Thr Gln Ala Ser Glu Lys Ala Trp Ser Glu Tyr
          195          200          205
Asn Phe Asp Tyr Ala Asn Thr Glu Met Trp Phe Lys His Phe Glu Asp
          210          215          220
Phe Ala Glu Glu Ala Leu Arg Thr Leu Lys Asn Gly Leu Ser Val Pro
225          230          235          240
Ala Tyr Asp Phe Val Ile Lys Ala Ser His Ala Phe Asn Ile Leu Asp
          245          250          255
Ala Arg Gly Thr Ile Ser Val Thr Glu Arg Thr Arg Tyr Ile Ala Arg
          260          265          270
Ile Arg Gln Leu Thr Arg Leu Val Ala Asp Ser Tyr Val Glu Trp Arg
          275          280          285
Ala Ser Leu Asn Tyr Pro Leu Leu Ser Leu Ser Ser Thr Ser Glu Pro
          290          295          300
Lys Glu Thr Ser Glu Ser Val Val Pro Met Ile Ser Ser Thr Glu Asp
305          310          315          320
Leu Leu Leu Glu Ile Gly Ser Glu Glu Leu Pro Ala Thr Phe Val Pro
          325          330          335
Ile Gly Ile Gln Gln Leu Glu Ser Leu Ala Arg Gln Val Leu Thr Asp
          340          345          350
His Asn Ile Val Tyr Glu Gly Leu Glu Val Leu Gly Ser Pro Arg Arg
          355          360          365
Leu Ala Leu Leu Val Lys Asn Val Ala Pro Glu Val Val Gln Lys Ala
          370          375          380
Phe Glu Lys Lys Gly Pro Met Leu Thr Ser Leu Phe Ser Pro Asp Gly
385          390          395          400

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Asp	Val	Ser	Pro	Gln	Gly	Gln	Gln	Phe	Phe	Ala	Ser	Gln	Gly	Val	Asp
				405					410					415	
Ile	Ser	His	Tyr	Gln	Asp	Leu	Ser	Arg	His	Ala	Ser	Leu	Ala	Ile	Arg
				420				425						430	
Thr	Val	Asn	Gly	Ser	Glu	Tyr	Leu	Phe	Leu	Leu	His	Pro	Glu	Ile	Arg
				435			440					445			
Leu	Arg	Thr	Ala	Asp	Ile	Leu	Met	Gln	Glu	Leu	Pro	Leu	Leu	Ile	Gln
				450		455					460				
Arg	Met	Lys	Phe	Pro	Lys	Lys	Met	Val	Trp	Asp	Asn	Ser	Gly	Val	Glu
465					470					475					480
Tyr	Ala	Arg	Pro	Ile	Arg	Trp	Leu	Val	Ala	Leu	Tyr	Gly	Glu	His	Ile
				485					490					495	
Leu	Pro	Ile	Thr	Leu	Gly	Thr	Ile	Ile	Ala	Ser	Arg	Asn	Ser	Phe	Gly
				500			505						510		
His	Arg	Gln	Leu	Asp	Pro	Arg	Lys	Ile	Ser	Ile	Ser	Ser	Pro	Gln	Asp
				515			520					525			
Tyr	Val	Glu	Thr	Leu	Arg	Gln	Ala	Cys	Val	Val	Val	Ser	Gln	Lys	Glu
				530		535					540				
Arg	Arg	Met	Ile	Ile	Glu	Gln	Gly	Leu	Arg	Ala	His	Ser	Ser	Asp	Thr
545					550					555					560
Ile	Ser	Ala	Ile	Pro	Leu	Pro	Arg	Leu	Ile	Glu	Glu	Ala	Thr	Phe	Leu
				565					570					575	
Ser	Glu	His	Pro	Phe	Val	Ser	Cys	Gly	Gln	Phe	Ser	Glu	Gln	Phe	Cys
				580				585					590		
Ala	Leu	Pro	Lys	Glu	Leu	Leu	Ile	Ala	Glu	Met	Val	Asn	His	Gln	Lys
				595			600					605			
Tyr	Phe	Pro	Thr	His	Glu	Thr	Ser	Ser	Gly	Ala	Ile	Ser	Asn	Phe	Phe
				610		615					620				
Ile	Val	Val	Cys	Asp	Asn	Ser	Pro	Asn	Asp	Thr	Ile	Ile	Glu	Gly	Asn
625					630					635					640
Glu	Lys	Ala	Leu	Thr	Pro	Arg	Leu	Thr	Asp	Gly	Glu	Phe	Leu	Phe	Lys
				645					650					655	
Gln	Asp	Leu	Gln	Thr	Pro	Leu	Thr	Thr	Phe	Ile	Glu	Lys	Leu	Lys	Ser
				660			665						670		
Val	Thr	Tyr	Phe	Glu	Ala	Leu	Gly	Ser	Leu	Tyr	Asp	Lys	Val	Glu	Arg
				675			680					685			
Leu	Lys	Ala	His	Gln	Arg	Val	Phe	Ser	Thr	Phe	Ser	Ser	Leu	Ala	Ala
				690		695					700				
Ser	Glu	Asp	Leu	Asp	Ile	Ala	Ile	Gln	Tyr	Cys	Lys	Ala	Asp	Leu	Val
705					710					715					720
Ser	Ala	Val	Val	Asn	Glu	Phe	Pro	Glu	Leu	Gln	Gly	Ile	Met	Gly	Glu
				725				730						735	
Tyr	Tyr	Leu	Lys	His	Ala	Asn	Leu	Pro	Thr	Ala	Ser	Ala	Val	Ala	Val
				740				745					750		
Gly	Glu	His	Leu	Arg	His	Ile	Thr	Met	Gly	Gln	Lys	Leu	Ser	Thr	Ile
				755			760					765			
Gly	Thr	Leu	Leu	Ser	Leu	Leu	Asp	Arg	Leu	Asp	Asn	Leu	Leu	Ala	Cys
				770		775					780				
Phe	Ile	Leu	Gly	Leu	Lys	Pro	Thr	Ser	Ser	His	Asp	Pro	Tyr	Ala	Leu
785					790					795					800
Arg	Arg	Gln	Ser	Leu	Glu	Val	Leu	Thr	Leu	Val	Ser	Ala	Ser	Arg	Leu
				805				810						815	
Pro	Ile	Asp	Leu	Ala	Ser	Leu	Leu	Asp	Arg	Leu	Ala	Asp	His	Phe	Pro
				820				825					830		
Ser	Thr	Ile	Glu	Glu	Lys	Val	Trp	Asp	Lys	Ser	Lys	Thr	Ile	His	Glu
				835			840					845			
Ile	Leu	Glu	Phe	Ile	Trp	Gly	Arg	Leu	Lys	Thr	Phe	Met	Gly	Ser	Leu
				850		855					860				
Glu	Phe	Arg	Lys	Asp	Glu	Ile	Ala	Ala	Val	Leu	Ile	Asp	Ser	Ala	Thr
865					870					875					880
Xaa	Asn	Pro	Ile	Glu	Ile	Leu	Asp	Thr	Ala	Glu	Ala	Leu	Gln	Leu	Leu
				885					890					895	
Lys	Glu	Glu	His	Thr	Glu	Lys	Leu	Ala	Val	Ile	Thr	Thr	Thr	His	Asn
				900				905						910	

Arg Leu Lys Lys Ile Leu Ser Ser Leu Lys Leu Ser Met Thr Ser Ser  
 915 920 925  
 Pro Ile Glu Val Leu Gly Asp Arg Glu Ser Asn Phe Lys Gln Val Leu  
 930 935 940  
 Asp Ala Phe Pro Gly Phe Pro Lys Glu Thr Ser Ala His Ala Phe Leu  
 945 950 955 960  
 Glu Tyr Phe Leu Ser Leu Ala Asp Leu Ser Asn Asp Ile Gln Asp Phe  
 965 970 975  
 Leu Asn Thr Val His Ile Ala Asn Asp Asp Gly Ala Ile Arg Asn Leu  
 980 985 990  
 Arg Ile Ser Leu Leu Leu Thr Ala Met Asp Lys Phe Ser Leu Cys His  
 995 1000 1005  
 Trp Glu Ser Val Ala Val  
 1010

&lt;210&gt;1019

&lt;211&gt;97

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1019

Asn Gly Asn Asp Val Leu Lys Thr Cys Ser Leu Ile Leu Leu Asn Leu  
 1 5 10 15  
 Cys Arg Tyr Phe Leu Leu Val Phe Cys Thr Ala Val Phe Phe Lys Arg  
 20 25 30  
 Tyr Ile Leu Ile Leu Thr Arg Thr Val Arg His Thr Glu Ile Tyr Ala  
 35 40 45  
 Cys Gly Glu Gly Val Thr Val Ala Leu Lys Ser Met Leu Pro Ser Met  
 50 55 60  
 Lys Gln Glu Ser Pro Ala Leu Ala Lys Glu Asn Val Lys Arg Lys Asn  
 65 70 75 80  
 Val Ile Pro Trp Ser His Leu Cys Gln Asn Ile Pro Ser Pro Tyr Ser  
 85 90 95  
 Leu

&lt;210&gt;1020

&lt;211&gt;207

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1020

Arg Val Gly Leu Pro Asn Tyr Ile Thr Phe Ser Arg Leu Phe Ile Thr  
 1 5 10 15  
 Pro Ile Phe Met Ile Leu Tyr Leu Lys Gly Lys Trp Phe Gly Ile Thr  
 20 25 30  
 Pro Val Val Leu Pro Tyr Val Leu Leu Ala Leu Leu Ala Ile Ser Glu  
 35 40 45  
 Leu Thr Asp Ala Ile Asp Gly Tyr Val Ala Arg Lys Phe Ser Gln Val  
 50 55 60  
 Thr Asp Leu Gly Lys Leu Leu Asp Pro Met Ala Asp Ser Ile Tyr Arg  
 65 70 75 80  
 Ile Ser Ile Tyr Leu Thr Phe Thr Gln Pro Pro Val Asn Leu Pro Leu  
 85 90 95  
 Leu Leu Val Phe Ile Phe Leu Ala Arg Asp Ser Val Ile Ser Thr Leu  
 100 105 110  
 Arg Thr Val Cys Ala Phe Arg Gly Arg Val Val Ala Ala Arg Ala Ser  
 115 120 125  
 Gly Lys Leu Lys Ala Ile Leu Gln Gly Val Ser Phe Phe Leu Ile Leu  
 130 135 140  
 Leu Val Met Ile Pro His Ser Leu Gly Leu Leu Ser Gln Asn Gly Leu  
 145 150 155 160  
 Glu Ile Phe Ala Ser Val Thr Val Ser Ile Ile Ala Val Tyr Ser Ile  
 165 170 175  
 Ala Ser Gly Ile Glu Tyr Phe Trp Met Asn Lys Asn Phe Leu Ser Gln  
 180 185 190  
 Arg Ala Lys Thr Lys Asp Ser Glu Lys Asn His Glu Ser Lys Asp  
 195 200 205

&lt;210&gt;1021

&lt;211&gt;476

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1021

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Met Arg Ile Val Gln Val Ala Val Glu Phe Thr Pro Ile Val Lys Val
 1           5           10           15
Gly Gly Leu Gly Asp Ala Val Ala Ser Leu Ser Lys Glu Leu Ala Lys
          20           25           30
Gln Asn Asp Val Glu Val Leu Leu Pro His Tyr Pro Leu Ile Ser Lys
          35           40           45
Phe Ser Ser Ser Gln Val Leu Ser Glu Arg Ser Phe Tyr Tyr Glu Phe
          50           55           60
Leu Gly Lys Gln Gln Ala Ser Ala Ile Ser Tyr Ser Tyr Glu Gly Leu
          65           70           75           80
Thr Leu Thr Ile Ile Thr Leu Asp Ser Gln Ile Glu Leu Phe Ser Thr
          85           90           95
Thr Ser Val Tyr Ser Glu Asn Asn Val Val Arg Phe Ser Ala Phe Ala
          100          105          110
Ala Ala Ala Ala Ala Tyr Leu Gln Glu Ala Asp Pro Ala Asp Ile Val
          115          120          125
His Leu His Asp Trp His Val Gly Leu Leu Ala Gly Leu Leu Lys Asn
          130          135          140
Pro Leu Asn Pro Val His Ser Lys Ile Val Phe Thr Ile His Asn Phe
          145          150          155          160
Gly Tyr Arg Gly Tyr Cys Ser Thr Gln Leu Leu Ala Ala Ser Gln Ile
          165          170          175
Asp Asp Phe His Leu Ser His Tyr Gln Leu Phe Arg Asp Pro Gln Thr
          180          185          190
Ser Val Leu Met Lys Gly Ala Leu Tyr Cys Ser Asp Tyr Ile Thr Thr
          195          200          205
Val Ser Leu Thr Tyr Val Gln Glu Ile Ile Asn Asp Tyr Ser Asp Tyr
          210          215          220
Glu Leu His Asp Ala Ile Leu Ala Arg Asn Ser Val Phe Ser Gly Ile
          225          230          235          240
Ile Asn Gly Ile Asp Glu Asp Val Trp Asn Pro Lys Thr Asp Pro Ala
          245          250          255
Leu Ala Val Gln Tyr Asp Ala Ser Leu Leu Ser Glu Pro Asp Val Leu
          260          265          270
Phe Thr Lys Lys Glu Glu Asn Arg Ala Val Leu Tyr Glu Lys Leu Gly
          275          280          285
Ile Ser Ser Asp Tyr Phe Pro Leu Ile Cys Val Ile Ser Arg Ile Val
          290          295          300
Glu Glu Lys Gly Pro Glu Phe Met Lys Glu Ile Ile Leu His Ala Met
          305          310          315          320
Glu His Ser Tyr Ala Phe Ile Leu Ile Gly Thr Ser Gln Asn Glu Val
          325          330          335
Leu Leu Asn Glu Phe Arg Asn Leu Gln Asp Cys Leu Ala Ser Ser Pro
          340          345          350
Asn Ile Arg Leu Ile Leu Asp Phe Asn Asp Pro Leu Ala Arg Leu Thr
          355          360          365
Tyr Ala Ala Ala Asp Met Ile Cys Ile Pro Ser His Arg Glu Ala Cys
          370          375          380
Gly Leu Thr Gln Leu Ile Ala Met Arg Tyr Gly Thr Val Pro Leu Val
          385          390          395          400
Arg Lys Thr Gly Gly Leu Ala Asp Thr Val Ile Pro Gly Val Asn Gly
          405          410          415
Phe Thr Phe Phe Asp Thr Asn Asn Phe Asn Glu Phe Arg Ala Met Leu
          420          425          430
Ser Asn Ala Val Thr Thr Tyr Arg Gln Glu Pro Asp Val Trp Leu Asn
          435          440          445
Leu Ile Glu Ser Gly Met Leu Arg Ala Ser Gly Leu Asp Ala Met Ala
          450          455          460
Lys His Tyr Val Asn Leu Tyr Gln Ser Leu Leu Ser

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465 70 475  
 <210>1022  
 <211>185  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1022  
 Met Glu Leu Val Val Thr Ser Arg Glu Thr Gly Lys Lys Ser Phe Leu  
 1 5 10 15  
 Lys Lys Ile Arg Gln Gln Gly Gly Ile Pro Ala Val Val Tyr Ser Ala  
 20 25 30  
 Gly Lys Ser Leu Ala Asn Ile Thr Val Asp Ala Leu Val Phe Lys Lys  
 35 40 45  
 Phe Leu Ser Asn Leu Glu Ser Gly Ala Leu Ser Ser Thr Val Phe Ser  
 50 55 60  
 Leu Ser Tyr Glu Gly Arg Ile Ile Lys Ala Leu Val Lys Asp Ile Gln  
 65 70 75 80  
 Tyr Gln Ile Thr Thr Tyr Asp Val Ile His Leu Asp Phe Glu Glu Leu  
 85 90 95  
 Val Glu Asp Arg Pro Val Lys Leu Asn Ile Pro Ile Arg Cys Ile Asn  
 100 105 110  
 Ala Val Asp Cys Ile Gly Val Lys Leu Gly Gly Ser Leu Arg Gln Val  
 115 120 125  
 Ile Arg Ala Val Arg Val Val Cys Lys Pro Lys Asp Ile Val Pro Phe  
 130 135 140  
 Leu Glu Leu Asp Val Arg Ser Val Gly Leu Ser Gln Thr Arg Lys Leu  
 145 150 155 160  
 Ser Asp Ile Lys Ile Pro Ala Gly Ile Glu Thr Ile Thr Pro Leu Lys  
 165 170 175  
 Glu Val Ala Ile Thr Val Ser Arg Arg  
 180 185  
 <210>1023  
 <211>150  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1023  
 Met Ala Lys Leu Ile Val Ala Ile Gly Asn Pro Arg His Gly Tyr Ala  
 1 5 10 15  
 Asn Thr Arg His Asn Ala Gly Phe Leu Leu Ala Asp Arg Leu Val Glu  
 20 25 30  
 Glu Leu Gln Gly Pro Pro Phe Lys Pro Leu Ser Lys Cys His Ala Leu  
 35 40 45  
 Met Thr Leu Val Glu Ser Ser Ser Gly Pro Leu Val Phe Ile Lys Pro  
 50 55 60  
 Thr Thr Phe Val Asn Leu Ser Gly Lys Ala Val Val Leu Ala Lys Lys  
 65 70 75 80  
 Tyr Phe Asn Val Ala Leu Ser His Ile Leu Val Leu Ala Asp Asp Val  
 85 90 95  
 Asn Arg Ser Phe Gly Lys Leu Arg Leu Cys Phe Asn Gly Gly Ser Gly  
 100 105 110  
 Gly His Asn Gly Leu Lys Ser Ile Thr Ala Ser Leu Gly Ser Asn Glu  
 115 120 125  
 Tyr Trp Gln Leu Arg Phe Gly Val Gly Arg Pro Leu Glu Glu Val Leu  
 130 135 140  
 Ser Tyr Leu Ile Ser Phe  
 145 150  
 <210>1024  
 <211>112  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1024  
 Met Gly Lys Lys Glu Asn Gln Leu Tyr Glu Gly Ala Tyr Val Phe Ser  
 1 5 10 15  
 Val Thr Leu Ser Glu Glu Ala Arg Arg Lys Ala Leu Asp Lys Val Ile  
 20 25 30

Ser Gly Ile Thr Asn Tyr Gly Gly Glu Ile His Lys Ile His Asp Gln  
                   35                  40                  45  
 Gly Arg Lys Lys Leu Ala Tyr Thr Ile Arg Gly Ala Arg Glu Gly Tyr  
                   50                  55                  60  
 Tyr Tyr Phe Ile Tyr Phe Ser Val Ser Pro Gly Ala Ile Thr Glu Leu  
                   65                  70                  75                  80  
 Trp Lys Glu Tyr His Leu Asn Glu Asp Leu Leu Arg Phe Met Thr Leu  
                   85                  90                  95  
 Arg Ala Asp Ser Val Lys Glu Val Leu Glu Phe Ala Ser Leu Pro Glu  
                   100                  105                  110

&lt;210&gt;1025

&lt;211&gt;82

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1025

Met Asn Lys Pro Val His Asn Asn Glu His Arg Arg Lys Arg Phe Asn  
                   1                  5                  10                  15  
 Lys Lys Cys Pro Phe Val Ser Ala Gly Trp Lys Thr Ile Asp Tyr Lys  
                   20                  25                  30  
 Asp Val Glu Thr Leu Lys Lys Phe Ile Thr Glu Arg Gly Lys Val Leu  
                   35                  40                  45  
 Pro Arg Arg Ile Thr Gly Val Ser Ser Arg Phe Gln Gly Val Leu Ser  
                   50                  55                  60  
 Gln Ala Ile Lys Arg Ala Arg His Leu Gly Leu Leu Pro Phe Val Gly  
                   65                  70                  75                  80  
 Glu Asp

&lt;210&gt;1026

&lt;211&gt;169

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1026

Met Lys Gln Gln Leu Leu Leu Leu Glu Asp Val Asp Gly Leu Gly Arg  
                   1                  5                  10                  15  
 Ser Gly Asp Leu Ile Thr Ala Arg Pro Gly Tyr Val Arg Asn Tyr Leu  
                   20                  25                  30  
 Ile Pro Lys Lys Lys Ala Val Ile Ala Gly Ala Gly Thr Leu Arg Leu  
                   35                  40                  45  
 Gln Ala Lys Leu Lys Glu Gln Arg Leu Ile Gln Ala Ala Ala Asp Lys  
                   50                  55                  60  
 Ala Asp Ser Glu Arg Ile Ala Gln Ala Leu Lys Asp Ile Val Leu Glu  
                   65                  70                  75                  80  
 Phe Gln Val Arg Val Asp Pro Asp Asn Asn Met Tyr Gly Ser Val Thr  
                   85                  90                  95  
 Ile Ala Asp Ile Ile Ala Glu Ala Ala Lys Lys Asn Ile Phe Leu Val  
                   100                  105                  110  
 Arg Lys Asn Phe Pro His Ala His Tyr Ala Ile Lys Asn Leu Gly Lys  
                   115                  120                  125  
 Lys Asn Ile Pro Leu Lys Leu Lys Glu Glu Val Thr Ala Thr Leu Leu  
                   130                  135                  140  
 Val Glu Val Thr Ser Asp Asn Glu Tyr Val Thr Val Leu Ala Gln Gly  
                   145                  150                  155                  160  
 Lys Gln Thr Glu Glu Asn Gln Glu Gly  
                   165

&lt;210&gt;1027

&lt;211&gt;81

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1027

Val Gly Arg Glu Cys Glu Gly Leu Phe Met Ser Tyr Lys Ile Thr Leu  
                   1                  5                  10                  15  
 Pro Lys Ala Asp Glu Thr Thr Ala Lys Lys Val Thr Lys Ile Ser Glu  
                   20                  25                  30  
 Ala Ser Thr Leu Ile Phe Ser Val Leu Lys Glu Lys Ala Ser Leu Gly

35 40 45  
 Asn Val His Gly Phe Cys Gln Ala Glu Asn Ser Leu Ser Val Glu Ala  
 50 55 60  
 Asn Lys Ile Ile Ser Val Ala Glu Asn Thr Leu Ala Gly Cys Phe Cys  
 65 70 75 80  
 Lys

&lt;210&gt;1028

&lt;211&gt;455

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1028

Leu Val Trp Phe Ser Met Ile Leu Pro Pro Tyr Ser Tyr Ser Leu Lys  
 1 5 10 15  
 Ile Gly Ala Ala Val Leu Phe Phe Cys Ser Ile Leu His Thr Phe Leu  
 20 25 30  
 Thr Pro Trp Leu Tyr Thr Leu Cys Gln Ser Tyr Glu His Lys Lys Leu  
 35 40 45  
 Val Phe Pro Glu Cys Trp Lys Arg Tyr Ala Arg Leu Ser Glu Leu Phe  
 50 55 60  
 Arg Ile Leu Ser Arg Val Glu Ile Val Phe Phe Leu Trp Ala Val Pro  
 65 70 75 80  
 Leu Phe Phe Trp Phe Leu Tyr Thr Glu Gly Tyr Arg Ile Ser Met Ala  
 85 90 95  
 Tyr Phe Asn Ser Arg Asn Tyr Gly Phe Ala Val Phe Ile Met Val Ile  
 100 105 110  
 Leu Ile Leu Leu Glu Ser Arg Pro Ile Val Tyr Phe Ala Glu Leu Val  
 115 120 125  
 Leu Ser Ser Ile Ala Lys Leu Gly Lys Thr Ser Pro Lys Ser Trp Trp  
 130 135 140  
 Trp Thr Leu Met Ile Ala Pro Pro Leu Leu Ser Cys Leu Leu Lys Glu  
 145 150 155 160  
 Thr Gly Ala Met Ile Ile Gly Ala Thr Leu Leu Met Arg His Phe Tyr  
 165 170 175  
 Val Phe Thr Pro Ser Arg Arg Phe Ala Tyr Ala Thr Ile Gly Leu Leu  
 180 185 190  
 Phe Ser Asn Ile Ser Ile Gly Gly Leu Thr Ser Tyr Val Ser Ser Arg  
 195 200 205  
 Ala Leu Phe Leu Ile Phe Pro Ala Leu Lys Trp Glu His Ser Phe Phe  
 210 215 220  
 Leu Ser His Phe Ala Trp Lys Ala Ile Val Ala Ile Leu Ile Ser Thr  
 225 230 235 240  
 Thr Ile Tyr Tyr Phe Ile Phe Arg Lys Glu Phe Lys Lys Phe Pro Asp  
 245 250 255  
 Ile Pro Ser Asp Lys Asp Pro Ser Val Glu Lys Val Pro Trp Trp Ile  
 260 265 270  
 Ile Cys Val Asn Ile Ile Phe Val Gly Ser Ile Ile Leu Ser Arg Ser  
 275 280 285  
 Thr Pro Leu Phe Met Gly Ala Leu Leu Leu Phe Tyr Leu Gly Phe Gln  
 290 295 300  
 Lys Phe Thr Ile Phe Tyr Gln Asp Pro Ile Asn Leu Ser Lys Val Cys  
 305 310 315 320  
 Tyr Val Gly Leu Phe Tyr Ala Gly Leu Val Val Phe Gly Asp Leu Gln  
 325 330 335  
 Glu Trp Trp Val Leu Asn Leu Met Gln Gly Leu Ser Asp Phe Gly Tyr  
 340 345 350  
 Met Thr Val Ser Tyr Thr Leu Ser Ile Phe Leu Asp Asn Ala Leu Val  
 355 360 365  
 Asn Tyr Leu Val His Asn Leu Ser Val Ala Thr Asp Cys Tyr His Tyr  
 370 375 380  
 Leu Val Val Ala Gly Cys Met Ala Ala Gly Gly Leu Thr Leu Val Ser  
 385 390 395 400  
 Asn Ile Pro Asn Ile Val Gly Tyr Leu Ile Leu Arg Ser Ala Phe Pro  
 405 410 415



Ser Ser Thr Ile His Met Gly Trp Leu Phe Leu Gly Ala Leu Gly Pro  
 420 425 430  
 Ser Ile Ile Ser Leu Gly Val Phe Trp Leu Leu Lys Asn Val Pro Glu  
 435 440 445  
 Phe Leu Tyr Cys Phe Phe Arg  
 450 455

&lt;210&gt;1029

&lt;211&gt;362

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1029

Pro Val Asn His Gln Leu Leu Arg Glu Tyr Tyr Pro Ala Thr Gln Ala  
 1 5 10 15  
 Gly Phe Ser Phe Thr Ser Ala Leu Gly Gly Asp Gly Ile Asp Leu Arg  
 20 25 30  
 Val Ser Gly Tyr Thr Thr Thr Val Pro Ala Leu Leu Asn Ser Ile Leu  
 35 40 45  
 Thr Ser Leu Pro Asn Leu Glu Ile Arg Tyr Glu Thr Phe Leu Val Tyr  
 50 55 60  
 Lys Lys Gln Leu Leu Glu Leu Tyr Gln Gly Ala Leu Leu Asn Cys Pro  
 65 70 75 80  
 Val Arg Ser Gly Leu Asp Glu Leu Ala Ser Gln Val Met Lys Glu Thr  
 85 90 95  
 Tyr Ser Asn Thr Thr Lys Leu Ser Ala Leu Glu Lys Leu Ser Phe Ser  
 100 105 110  
 Glu Phe Gln Ala Phe Ala Ser Asn Leu Phe Asn Ser Val His Leu Glu  
 115 120 125  
 Val Met Val Leu Gly Asn Leu Ser Glu Gln Gln Lys Lys Asp Tyr Leu  
 130 135 140  
 Glu Met Leu Gln Val Phe Thr Ala Ser Arg Ser Ser His Ala Thr Lys  
 145 150 155 160  
 Pro Phe Tyr Tyr Glu Leu Gln Ser Gln Glu Ile Ser Glu Ile His His  
 165 170 175  
 Asp Tyr Pro Leu Thr Ala Asn Gly Met Leu Leu Leu Leu Gln Asp Lys  
 180 185 190  
 Ser Ser Pro Ser Ile Gln Gly Lys Val Cys Ala Glu Met Leu Phe Glu  
 195 200 205  
 Trp Leu His His Ile Thr Phe Glu Glu Leu Arg Thr Gln Gln Gln Leu  
 210 215 220  
 Gly Tyr Met Val Gly Ala Arg Tyr Arg Glu Phe Ala Ser Arg Pro Phe  
 225 230 235 240  
 Gly Phe Leu Tyr Ile Arg Ser Asp Ala Tyr Ser Pro Glu Glu Leu Leu  
 245 250 255  
 Ala Lys Thr Ser Leu Phe Leu Asn Lys Val Ser Ala Ser Pro Glu Lys  
 260 265 270  
 Phe Gly Ile Ser Gln Glu Lys Phe Ala Asn Ile Arg Lys Ala Tyr Ile  
 275 280 285  
 Asn Lys Ile Leu Glu Pro Glu His Ser Leu Asp Met Met Asn Ser Ala  
 290 295 300  
 Leu Phe Ser Leu Ala Phe Glu Arg Pro Phe Val Glu Phe Ser Thr Pro  
 305 310 315 320  
 Asp Leu Lys Ile Ala Ile Ala Glu Thr Leu Thr Tyr Glu Glu Phe Leu  
 325 330 335  
 Lys Tyr Cys Gln Cys Phe Leu Ser Asn Glu Leu Gly Thr Gln Thr Ser  
 340 345 350  
 Val Tyr Ile Arg Gly Thr Gln Lys Thr Ser  
 355 360

&lt;210&gt;1030

&lt;211&gt;945

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1030

Ile Tyr Arg Ala Ile Tyr Met Gln Phe Ser Arg Tyr Leu Arg Tyr Ala  
 1 5 10 15

Phe Asp Asn Gln Tyr Leu Pro Glu Pro Leu Tyr Gln Lys Phe Ser Val  
 20 25 30  
 Phe His Gln Asn Tyr Ile Asp Ala Ala Thr Lys Lys Ala Ala Ala Asp  
 35 40 45  
 Gln Ala Glu Val Leu Cys Leu Gln Trp Val Lys Val Ile Ile Glu Asp  
 50 55 60  
 Leu Lys Asn Pro Phe Ile Phe Pro Pro Tyr His Lys Lys Ile Arg Ala  
 65 70 75 80  
 Pro Ile Asp Leu Phe Arg Leu Ser Ile Asp Phe Phe Ser Leu Val Ile  
 85 90 95  
 Asp Asp Lys Asn Ser Arg Ile Leu Asn Leu His Arg Leu Lys Glu Ile  
 100 105 110  
 Glu Glu Tyr Ile Ala Arg Gly Asp Asn Val Val Leu Leu Ala Asn His  
 115 120 125  
 Gln Thr Glu Cys Asp Pro Gln Leu Met Tyr Tyr Ala Leu Gly Lys Thr  
 130 135 140  
 His Pro Glu Leu Met Glu Asn Met Ile Phe Val Ala Gly Asp Arg Val  
 145 150 155 160  
 Thr Ser Asp Pro Leu Ala Arg Pro Phe Ser Met Gly Cys Asp Leu Leu  
 165 170 175  
 Cys Ile Tyr Ser Lys Arg His Ile Ala Thr Pro Pro Glu Leu Arg Glu  
 180 185 190  
 Glu Lys Leu Leu His Asn Gln Lys Ser Met Gln Ile Leu Lys Thr Leu  
 195 200 205  
 Leu Asn Glu Gly Gly Lys Phe Ile Tyr Val Ala Pro Ala Gly Gly Arg  
 210 215 220  
 Asp Arg Lys Asn Ala Glu Gly Arg Leu Tyr Pro Ser Glu Phe Ser Pro  
 225 230 235 240  
 Glu Ser Ile Glu Val Phe Arg Leu Leu Ala Lys Ala Ser Asn Gln Thr  
 245 250 255  
 Thr His Phe Tyr Pro Phe Ala Leu Lys Thr Tyr Asp Ile Leu Pro Pro  
 260 265 270  
 Pro Pro Lys Ile Glu Asn Ala Ile Gly Glu Gln Arg Ala Ile Phe Phe  
 275 280 285  
 Ala Pro Val Phe Phe Asn Phe Gly Ala Glu Leu Phe Phe Asp Ala Leu  
 290 295 300  
 Cys Ser Lys Glu Glu Leu Ile His Cys Asp Lys His Ala Gln Arg Thr  
 305 310 315 320  
 Leu Arg Ala Glu Lys Val Phe Ser Ile Cys Lys Lys Ser Ile Arg Gly  
 325 330 335  
 Ile Val Arg Cys Phe Gly Asn Phe Phe Val Pro Ile Leu Ile Cys Thr  
 340 345 350  
 Ser Leu Ser Ile Thr Ser Cys Glu Gln Gln Phe Lys Val Val Pro Asn  
 355 360 365  
 Gln Cys Pro Leu Gln Val Ser Thr Pro Ala Ala Ala Asp Gln Lys Ile  
 370 375 380  
 Glu Lys Ile Ile Cys Ser Asn Gly Leu Pro Leu Leu Ile Ile Ser Asp  
 385 390 395 400  
 Pro Asn Leu Pro Thr Ser Gly Ala Ala Leu Leu Val Lys Thr Gly Asn  
 405 410 415  
 Asn Ala Asp Pro Glu Glu Tyr Pro Gly Met Ala His Phe Thr Glu His  
 420 425 430  
 Cys Val Phe Leu Gly Asn Glu Lys Tyr Pro Glu Val Ser Gly Phe Pro  
 435 440 445  
 Gly Phe Leu Ser Glu Asn Asn Gly Val His Asn Ala Phe Thr Tyr Pro  
 450 455 460  
 Asn Lys Thr Val Phe Val Phe Ser Val Glu His Ser Ala Phe Ser Asp  
 465 470 475 480  
 Ala Leu Asp Gln Phe Val His Leu Phe Ile Asn Pro Lys Phe Arg Gln  
 485 490 495  
 Glu Asp Leu Asp Arg Glu Lys Tyr Ala Val His Gln Glu Phe Ala Ala  
 500 505 510  
 His Pro Leu Ser Asp Gly Arg Arg Val His Arg Ile Gln Gln Leu Val  
 515 520 525

Ala Pro Gln Gly His Pro Cys Ala Arg Phe Gly Cys Gly Asn Ala Ser  
 530 535 540  
 Thr Leu Thr Pro Val Thr Thr Glu Lys Met Ala Glu Trp Phe Lys Leu  
 545 550 555 560  
 His Tyr Ser Pro Glu Asn Met Cys Ala Ile Ala Tyr Thr Ser Ala Pro  
 565 570 575  
 Leu Ser Lys Ala Lys Lys Gln Phe Ser Lys Ile Phe Ser Gln Ile Pro  
 580 585 590  
 Arg Ser Lys Asn Tyr Glu Arg Gln Glu Pro Phe Leu Pro Ser Gly Asp  
 595 600 605  
 Thr Ser Ser Leu Lys Asn Leu Tyr Ile Asn Gln Ala Ile Gln Pro Thr  
 610 615 620  
 Ser Asn Leu Glu Ile Tyr Trp His Ile Tyr Glu Ser Ser His Pro Ile  
 625 630 635 640  
 Pro Leu Gly Cys Tyr Lys Ala Leu Ala Glu Val Leu Arg Asn Glu Ser  
 645 650 655  
 Lys Asn Ser Leu Val Ser Leu Leu Lys Asn Glu Gln Leu Ile Thr Asp  
 660 665 670  
 Leu Asp Val Glu Phe Phe Arg Ser Ser Leu Asn Thr Gly Glu Phe Tyr  
 675 680 685  
 Ile Ser Tyr Glu Leu Thr Glu Lys Gly Asp Lys His Tyr Ser Gln Val  
 690 695 700  
 Ile Asp Ser Thr Phe Gln Tyr Leu Arg Tyr Ile Gln Glu His Gly Ile  
 705 710 715 720  
 Pro Asn Tyr Thr Leu Glu Glu Ile Ser Thr Ile Asn Ala Leu Asn Tyr  
 725 730 735  
 Cys Tyr Ser Ser Lys Ser Pro Leu Phe Asp Leu Leu Cys Lys Gln Ile  
 740 745 750  
 Val Ser Leu Gly Asn Glu Asp Leu Ser Thr Tyr Pro Tyr His Ser Leu  
 755 760 765  
 Val Tyr Pro Lys Tyr Ser Ser Glu Asp Glu Ser Ala Leu Leu Asn Leu  
 770 775 780  
 Val Ser Asp Pro Glu Gln Ala Arg Phe Val Leu Ser Ser Lys Asn Ser  
 785 790 795 800  
 Glu His Trp Glu Glu Ala Thr Gln Leu His Asp Pro Ile Phe Asp Met  
 805 810 815  
 Thr Tyr Tyr Val Lys Ala Leu Asp Gly Val Gln Asp Tyr Gly Lys Val  
 820 825 830  
 Gln Ser Leu Lys Pro Ile Ala Leu Pro Lys Pro Asn Leu Phe Ile Pro  
 835 840 845  
 Lys Glu Val Thr Leu Pro Gly Val His Leu Leu Lys Lys Gln Glu Phe  
 850 855 860  
 Pro Phe Ala Pro Ala Leu Ser Tyr Gln Asp Asp Lys Leu Thr Leu Tyr  
 865 870 875 880  
 His Cys Glu Asp His Tyr Tyr Thr Ala Pro Lys Leu Ser Ser Gln Ile  
 885 890 895  
 Arg Ile Arg Ser Pro Gln Ile Ser Arg Ser Ser Pro Gln Phe Leu Val  
 900 905 910  
 Ala Thr Glu Leu Tyr Cys Leu Ala Cys Glu Pro Ser Ala Phe Glu Gly  
 915 920 925  
 Val Leu Ser Arg Asn Ala Ser Trp Phe Phe Phe Tyr Phe Cys Phe Arg  
 930 935 940

Trp

945

&lt;210&gt;1031

&lt;211&gt;521

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1031

Ile Gly Thr Arg Lys Val Met Glu Asn Glu Ile Leu Leu Asn Ile Glu  
 1 5 10 15

Ser Lys Glu Ile Arg Tyr Ala His Leu Lys Asn Gly Gln Leu Phe Asp  
 20 25 30

Leu Thr Ile Glu Arg Lys Lys Val Arg Gln Leu Lys Gly Asn Ile Tyr

35 40 45  
 Arg Gly Arg Val Thr Asn Ile Leu Arg Asn Ile Gln Ser Ala Phe Ile  
 50 55 60  
 Asn Ile Asp Glu Arg Glu Asn Gly Phe Ile His Ile Ser Asp Ile Leu  
 65 70 75 80  
 Glu Asn Ser Lys Lys Phe Glu Gln Met Phe Asp Met Asp Val Asp Ala  
 85 90 95  
 Leu Pro Glu Glu Ala Ser Glu Ala Pro Leu Leu Ser Ser Glu Glu Ala  
 100 105 110  
 Pro Ile Glu Glu Phe Leu Lys Leu Asp Ser Pro Val Leu Val Gln Val  
 115 120 125  
 Val Lys Glu Pro Ile Gly Ser Lys Gly Ala Arg Leu Thr Ser Asn Ile  
 130 135 140  
 Ser Ile Pro Gly Arg Tyr Leu Val Leu Leu Pro Asn Ser Pro His Arg  
 145 150 155 160  
 Gly Val Ser Arg Lys Ile Glu Asp Pro His Met Arg Glu Gln Leu Lys  
 165 170 175  
 Gln Leu Ile Arg Ser Phe Glu Met Pro Gln Asp Met Gly Leu Ile Cys  
 180 185 190  
 Arg Thr Ala Ser Thr Thr Ala Ser Thr Glu Ala Leu Ile Asn Glu Ala  
 195 200 205  
 His Asp Leu Leu Leu Thr Trp Lys Thr Ile Leu Glu Lys Phe Tyr Ser  
 210 215 220  
 Thr Glu Gln Pro Cys Leu Leu Tyr Ser Glu Thr Asp Ile Leu Lys Lys  
 225 230 235 240  
 Ala Val Ile Thr Cys Ile Asp Lys Asn Tyr Lys Arg Leu Leu Ile Asp  
 245 250 255  
 Asp Tyr Ala Thr Tyr Gln Lys Cys Lys His Met Leu Lys Lys Tyr Ser  
 260 265 270  
 Pro Asp Ala Ser Ile Lys Ile Glu Tyr Tyr Arg Asp Ser Ile Pro Met  
 275 280 285  
 Phe Glu Arg Phe Asn Ile Glu Lys Glu Ile Asp Lys Ala Thr Arg Arg  
 290 295 300  
 Lys Ile Trp Leu Ser Ser Gly Gly Tyr Leu Phe Phe Asp Lys Thr Glu  
 305 310 315 320  
 Ala Met His Thr Ile Asp Val Asn Ser Gly Arg Ser Thr Gln Leu Glu  
 325 330 335  
 Ser Gly Val Glu Glu Thr Leu Val Gln Ile Asn Leu Glu Ala Ala Glu  
 340 345 350  
 Glu Ile Ala Arg Gln Leu Arg Leu Arg Asn Val Gly Gly Leu Val Ile  
 355 360 365  
 Ile Asp Phe Ile Asp Met Lys Ser Arg Lys Asn Gln Arg Arg Val Leu  
 370 375 380  
 Glu Arg Leu Lys Glu His Met Lys Tyr Asp Ala Ala Arg Cys Thr Ile  
 385 390 395 400  
 Leu Ser Met Ser Glu Phe Gly Leu Val Glu Met Thr Arg Gln Arg Asn  
 405 410 415  
 Arg Glu Ser Leu Met Gln Thr Leu Phe Thr Leu Cys Pro Tyr Cys Ser  
 420 425 430  
 Gly Asn Ala Ile Ile Lys Thr Pro Glu Ser Val Val Ile Glu Ile Glu  
 435 440 445  
 Arg Asp Leu Lys Lys Val Ile Asn His Lys Glu His Ser His Leu Cys  
 450 455 460  
 Leu Val Val His Pro Glu Ile Ala Ser Tyr Met Lys Gln Glu Asn Asp  
 465 470 475 480  
 Asp Asn Glu Met Ile Asn Leu Ala Lys Gln Leu Lys Ala Lys Leu Gln  
 485 490 495  
 Ile Asn Thr Ser Asp Ser Val His Leu Asn His Tyr Gln Phe Ser  
 500 505 510  
 Leu Ile Thr Gly Glu Ser Ile Asp Leu  
 515 520

&lt;210&gt;1032

&lt;211&gt;176

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1032

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Ser Leu Ser Leu Val Ser Tyr Leu Ser Asn Pro Gln Lys Ala Leu Val
 1          5          10          15
Leu Gly Ser Lys Gly Phe Ser Met Asp Cys Val Asp Asn Leu Lys Leu
      20          25          30
Tyr Ile Phe Arg Leu Lys Leu Pro Gly Asp Thr Glu Arg Ile Ser Tyr
      35          40          45
Ser Ile Ser Pro Glu Tyr Ile Arg Glu Lys Gly Glu Glu Leu Leu
      50          55          60
Asn Ser Pro Ile Glu Val Glu Gly Ser Leu Gly Arg Ile Asp Ser Asp
      65          70          75          80
Gln Trp Ile Leu Ser Leu Ser Leu Lys Thr Gln Leu Gly Leu Cys Cys
      85          90          95
Pro Val Cys Asn Asn Phe Phe Ser His Ser Val Cys Leu Pro Asp Leu
      100          105          110
Gln Arg Val Ile Ser His Asp Glu Val Gly Ser Gly Val Phe Asp Cys
      115          120          125
Arg Pro Leu Ile Arg Gln Glu Leu Leu Leu Glu Ser Asp Cys Phe Glu
      130          135          140
Glu Cys Ser Gly Gln Gly Cys Pro Glu Arg Lys Asn Ile Leu Lys Phe
      145          150          155          160
Leu Glu Asp Arg Lys Lys His Glu Gly Asn Asn Pro Phe Glu Tyr Leu
      165          170          175

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&lt;210&gt;1033

&lt;211&gt;213

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1033

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Met Glu Val Gln Ile Gly Ile Asp Leu Met Gly Gly Asp His Ser Pro
 1          5          10          15
Leu Val Val Trp Gln Val Leu Val Asp Val Leu Lys Ser Gln Ser Ser
      20          25          30
Thr Ile Pro Phe Ala Phe Thr Leu Phe Ala Ser Glu Glu Ile Arg Lys
      35          40          45
Gln Ile Gln Glu Glu Phe Ile Ser Asp Leu Pro Gln Glu Lys Phe Pro
      50          55          60
Lys Ile Ile Ser Ala Glu Asn Phe Val Ala Met Glu Asp Ser Pro Leu
      65          70          75          80
Ala Ala Ile Arg Lys Lys Ser Ser Ser Met Ala Leu Gly Leu Asp Tyr
      85          90          95
Leu Gln Glu Asp Lys Leu Asp Ala Phe Ile Ser Thr Gly Asn Thr Gly
      100          105          110
Ala Leu Val Thr Leu Ala Arg Ala Lys Ile Pro Leu Phe Pro Ala Val
      115          120          125
Ser Arg Pro Ala Leu Leu Val Cys Val Pro Thr Met Arg Gly His Ala
      130          135          140
Val Ile Leu Asp Val Gly Ala Asn Ile Ser Val Lys Pro Glu Glu Met
      145          150          155          160
Val Gly Phe Ala Arg Met Gly Leu Ala Tyr Arg Gln Cys Leu Gly Asp
      165          170          175
Ser Lys Ile Pro Thr Ile Gly Leu Leu Asn Ile Gly Ser Glu Glu Arg
      180          185          190
Lys Gly Thr Glu Ala His Arg Gln Thr Phe Arg Met Leu Arg Glu Thr
      195          200          205
Phe Gly Glu Leu Ser
      210

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&lt;210&gt;1034

&lt;211&gt;127

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1034

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Arg Tyr Gly Ser Pro Ser Pro Asp Ile Pro Tyr Ala Ala Arg Asp Ile
 1          5          10          15

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Trp Arg Thr Phe Leu Gly Asn Ile Glu Ser Gly Ala Val Phe Asp Gly  
 20 25 30  
 Ala Ala Asp Ile Val Val Thr Asp Gly Phe Thr Gly Asn Ile Phe Leu  
 35 40 45  
 Lys Thr Ala Glu Gly Val Phe Glu Phe Leu Gln Arg Ile Leu Gly Asp  
 50 55 60  
 Lys Leu Glu Ala Asp Ile Gln Arg Arg Leu Asp Tyr Thr Phe Tyr Pro  
 65 70 75 80  
 Gly Ser Val Val Cys Gly Leu Ser Lys Leu Val Ile Lys Cys His Gly  
 85 90 95  
 Lys Ala Cys Gly Ser Ser Leu Phe His Gly Ile Leu Gly Ser Ile Asn  
 100 105 110  
 Leu Ala Gln Ala Arg Leu Cys Lys Arg Ile Leu Ser Asn Leu Ile  
 115 120 125

&lt;210&gt;1035

&lt;211&gt;1617

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1035

Thr Pro Leu Arg Phe Lys Val Ala Met Val Ala Lys Lys Thr Val Arg  
 1 5 10 15  
 Ser Tyr Arg Ser Ser Phe Ser His Ser Val Ile Val Ala Ile Leu Ser  
 20 25 30  
 Ala Gly Ile Ala Phe Glu Ala His Ser Leu His Ser Ser Glu Leu Asp  
 35 40 45  
 Leu Gly Val Phe Asn Lys Gln Phe Glu Glu His Ser Ala His Val Glu  
 50 55 60  
 Glu Ala Gln Thr Ser Val Leu Lys Gly Ser Asp Pro Val Asn Pro Ser  
 65 70 75 80  
 Gln Lys Glu Ser Glu Lys Val Leu Tyr Thr Gln Val Pro Leu Thr Gln  
 85 90 95  
 Gly Ser Ser Gly Glu Ser Leu Asp Leu Ala Asp Ala Asn Xaa Leu Glu  
 100 105 110  
 His Phe Gln His Leu Phe Glu Glu Thr Thr Val Phe Gly Ile Asp Gln  
 115 120 125  
 Lys Leu Val Trp Ser Asp Leu Asp Thr Arg Asn Phe Ser Gln Pro Thr  
 130 135 140  
 Gln Glu Pro Asp Thr Ser Asn Ala Val Ser Glu Lys Ile Ser Ser Asp  
 145 150 155 160  
 Thr Lys Glu Asn Arg Lys Asp Leu Glu Thr Glu Asp Pro Ser Lys Lys  
 165 170 175  
 Ser Gly Leu Lys Glu Val Ser Ser Asp Leu Pro Lys Ser Pro Glu Thr  
 180 185 190  
 Ala Val Ala Ala Ile Ser Glu Asp Leu Glu Ile Ser Glu Asn Ile Ser  
 195 200 205  
 Ala Arg Asp Pro Leu Gln Gly Leu Ala Phe Phe Tyr Lys Asn Thr Ser  
 210 215 220  
 Ser Gln Ser Ile Ser Glu Lys Asp Ser Ser Phe Gln Gly Ile Ile Phe  
 225 230 235 240  
 Ser Gly Ser Gly Ala Asn Ser Gly Leu Gly Phe Glu Asn Leu Lys Ala  
 245 250 255  
 Pro Lys Ser Gly Ala Ala Val Tyr Ser Asp Arg Asp Ile Val Phe Glu  
 260 265 270  
 Asn Leu Val Lys Gly Leu Ser Phe Ile Ser Cys Glu Ser Leu Glu Asp  
 275 280 285  
 Gly Ser Ala Ala Gly Val Asn Ile Val Val Thr His Cys Gly Asp Val  
 290 295 300  
 Thr Leu Thr Asp Cys Ala Thr Gly Leu Asp Leu Glu Ala Leu Arg Leu  
 305 310 315 320  
 Val Lys Asp Phe Ser Arg Gly Gly Ala Val Phe Thr Ala Arg Asn His  
 325 330 335  
 Glu Val Gln Asn Asn Leu Ala Gly Gly Ile Leu Ser Val Val Gly Asn  
 340 345 350  
 Lys Gly Ala Ile Val Val Glu Lys Asn Ser Ala Glu Lys Ser Asn Gly



865		870		875		880
Ala Gly Asp Ile	Leu Phe Val Ser Asn Ser Thr Gly Ser Tyr Gly Gly					
	885		890		895	
Ala Ile Phe Val Gly Ser Leu Val Ala Ser Glu Gly Ser Asn Pro Arg						
	900		905		910	
Thr Leu Thr Ile Thr Gly Asn Ser Gly Asp Ile Leu Phe Ala Lys Asn						
	915		920		925	
Ser Thr Gln Thr Ala Ala Ser Leu Ser Glu Lys Asp Ser Phe Gly Gly						
	930		935		940	
Gly Ala Ile Tyr Thr Gln Asn Leu Lys Ile Val Lys Asn Ala Gly Asn						
945		950		955		960
Val Ser Phe Tyr Gly Asn Arg Ala Pro Ser Gly Ala Gly Val Gln Ile						
	965		970		975	
Ala Asp Gly Gly Thr Val Cys Leu Glu Ala Phe Gly Gly Asp Ile Leu						
	980		985		990	
Phe Glu Gly Asn Ile Asn Phe Asp Gly Ser Phe Asn Ala Ile His Leu						
	995		1000		1005	
Cys Gly Asn Asp Ser Lys Ile Val Glu Leu Ser Ala Val Gln Asp Lys						
	1010		1015		1020	
Asn Ile Ile Phe Gln Asp Ala Ile Thr Tyr Glu Glu Asn Thr Ile Arg						
1025		1030		1035		1040
Gly Leu Pro Asp Lys Asp Val Ser Pro Leu Ser Ala Pro Ser Leu Ile						
	1045		1050		1055	
Phe Asn Ser Lys Pro Gln Asp Asp Ser Ala Gln His His Glu Gly Thr						
	1060		1065		1070	
Ile Arg Phe Ser Arg Gly Val Pro Lys Ile Pro Gln Ile Ala Ala Ile						
	1075		1080		1085	
Gln Glu Gly Thr Leu Ala Leu Ser Gln Asn Ala Glu Leu Trp Leu Ala						
	1090		1095		1100	
Gly Leu Lys Gln Glu Thr Gly Ser Ser Ile Val Leu Ser Ala Gly Ser						
1105		1110		1115		1120
Ile Leu Arg Ile Phe Asp Ser Gln Val Asp Ser Ser Ala Pro Leu Pro						
	1125		1130		1135	
Thr Glu Asn Lys Glu Glu Thr Leu Val Ser Ala Gly Val Gln Ile Asn						
	1140		1145		1150	
Met Ser Ser Pro Thr Pro Asn Lys Asp Lys Ala Val Asp Thr Pro Val						
	1155		1160		1165	
Leu Ala Asp Ile Ile Ser Ile Thr Val Asp Leu Ser Ser Phe Val Pro						
	1170		1175		1180	
Glu Gln Asp Gly Thr Leu Pro Leu Pro Pro Glu Ile Ile Ile Pro Lys						
1185		1190		1195		1200
Gly Thr Lys Leu His Ser Asn Ala Ile Asp Leu Lys Ile Ile Asp Pro						
	1205		1210		1215	
Thr Asn Val Gly Tyr Glu Asn His Ala Leu Leu Ser Ser His Lys Asp						
	1220		1225		1230	
Ile Pro Leu Ile Ser Leu Lys Thr Ala Glu Gly Met Thr Gly Thr Pro						
	1235		1240		1245	
Thr Ala Asp Ala Ser Leu Ser Asn Ile Lys Ile Asp Val Ser Leu Pro						
	1250		1255		1260	
Ser Ile Thr Pro Ala Thr Tyr Gly His Thr Gly Val Trp Ser Glu Ser						
1265		1270		1275		1280
Lys Met Glu Asp Gly Arg Leu Val Val Gly Trp Gln Pro Thr Gly Tyr						
	1285		1290		1295	
Lys Leu Asn Pro Glu Lys Gln Gly Ala Leu Val Leu Asn Asn Leu Trp						
	1300		1305		1310	
Ser His Tyr Thr Asp Leu Arg Ala Leu Lys Gln Glu Ile Phe Ala His						
	1315		1320		1325	
His Thr Ile Ala Gln Arg Met Glu Leu Asp Phe Ser Thr Asn Val Trp						
	1330		1335		1340	
Gly Ser Gly Leu Gly Val Val Glu Asp Cys Gln Asn Ile Gly Glu Phe						
1345		1350		1355		1360
Asp Gly Phe Lys His His Leu Thr Gly Tyr Ala Leu Gly Leu Asp Thr						
	1365		1370		1375	
Gln Leu Val Glu Asp Phe Leu Ile Gly Gly Cys Phe Ser Gln Phe Phe						



1380 1385 1390  
 Gly Lys Thr Glu Ser Gln Ser Tyr Lys Ala Lys Asn Asp Val Lys Ser  
 1395 1400 1405  
 Tyr Met Gly Ala Ala Tyr Ala Gly Ile Leu Ala Gly Pro Trp Leu Ile  
 1410 1415 1420  
 Lys Gly Ala Phe Val Tyr Gly Asn Ile Asn Asn Asp Leu Thr Thr Asp  
 1425 1430 1435 1440  
 Tyr Gly Thr Leu Gly Ile Ser Thr Gly Ser Trp Ile Gly Lys Gly Phe  
 1445 1450 1455  
 Ile Ala Gly Thr Ser Ile Asp Tyr Arg Tyr Ile Val Asn Pro Arg Arg  
 1460 1465 1470  
 Phe Ile Ser Ala Ile Val Ser Thr Val Val Pro Phe Val Glu Ala Glu  
 1475 1480 1485  
 Tyr Val Arg Ile Asp Leu Pro Glu Ile Ser Glu Gln Gly Lys Glu Val  
 1490 1495 1500  
 Arg Thr Phe Gln Lys Thr Arg Phe Glu Asn Val Ala Ile Pro Phe Gly  
 1505 1510 1515 1520  
 Phe Ala Leu Glu His Ala Tyr Ser Arg Gly Ser Arg Ala Glu Val Asn  
 1525 1530 1535  
 Ser Val Gln Leu Ala Tyr Val Phe Asp Val Tyr Arg Lys Gly Pro Val  
 1540 1545 1550  
 Ser Leu Ile Thr Leu Lys Asp Ala Ala Tyr Ser Trp Lys Ser Tyr Gly  
 1555 1560 1565  
 Val Asp Ile Pro Cys Lys Ala Trp Lys Ala Arg Leu Ser Asn Asn Thr  
 1570 1575 1580  
 Glu Trp Asn Ser Tyr Leu Ser Thr Tyr Leu Ala Phe Asn Tyr Glu Trp  
 1585 1590 1595 1600  
 Arg Glu Asp Leu Ile Ala Tyr Asp Phe Asn Gly Gly Ile Arg Ile Ile  
 1605 1610 1615  
 Phe

&lt;210&gt;1036

&lt;211&gt;504

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1036

Gln Ser Ile Leu Glu Ser Ile Ile Lys Tyr Phe Tyr Leu Ile His Asn  
 1 5 10 15  
 Ser Lys Met His Met Ser Asn Pro Ile Ser Leu Phe Ser Pro Ala Glu  
 20 25 30  
 Leu Ile Ala Lys Tyr Asn Leu Ile Pro Lys Thr Ser Pro Ile Tyr Pro  
 35 40 45  
 Arg Arg Thr Glu Leu Ile Ile Leu Glu Glu Asn Ala Cys Gln Thr Arg  
 50 55 60  
 Leu Thr Asn Val Ala Gln Val Leu His Pro Ser Ser Leu Phe Ser Met  
 65 70 75 80  
 Ser Lys Lys Ile Leu Asn Pro Cys Gly Cys Ser Gly Gly Pro Leu Cys  
 85 90 95  
 Trp Val Ile Leu Asn Ile Leu Ala Phe Ile Ile Thr Ser Val Leu Phe  
 100 105 110  
 Ile Ile Leu Leu Pro Val Asn Leu Ile Val Ala Gly Leu Arg Leu Phe  
 115 120 125  
 Met Pro Leu Pro Pro Lys Lys Ile Val Glu Asp Leu Ser Glu Pro Thr  
 130 135 140  
 Thr Glu Glu Thr Asn Glu Val Ile Gln Pro Phe Ile Phe Ala Leu Gln  
 145 150 155 160  
 Ala Leu Leu Phe Glu Asp Asn Lys Leu Arg Ser Phe Lys Ile Val Glu  
 165 170 175  
 Gln Ser Val Gly Lys Ala Pro Leu Pro Asn Pro Phe Leu Asn Arg Leu  
 180 185 190  
 Val Ala Ile Ser Pro Gln Xaa Ser Gln Glu Ala Met Arg Lys Ile Pro  
 195 200 205  
 Asp Leu Cys Ser Gln Leu Lys Lys Val Leu Lys Ser Leu Gly Val Leu  
 210 215 220

Thr Pro Glu Trp Lys His Met Leu Lys Tyr Phe Glu Gly Leu Lys Asn  
 225 230 235 240  
 Glu His Asp Ser Asn Pro Asp Lys Lys Thr Phe Pro Ile Leu Ile Lys  
 245 250 255  
 Leu Leu Ile Glu Ala Leu Thr Gly Lys Ser Ser Leu Pro Lys Thr Pro  
 260 265 270  
 Ser Thr Lys Glu Lys Met Gln Ala Ala Leu Phe Ile Ala Ser Ser Cys  
 275 280 285  
 Lys Thr Cys Lys Pro Thr Trp Gly Glu Val Ile Thr Arg Ser Leu Asn  
 290 295 300  
 Arg Leu Tyr Ser Ile Ala Asn Glu Gly Asp Asn Gln Leu Leu Ile Trp  
 305 310 315 320  
 Val Gln Glu Phe Lys Glu Arg Glu Leu Met Ser Ile Gln Asp Gly Asp  
 325 330 335  
 Asp Ala Glu Glu Tyr Arg Phe Ala Ala Gln Gln His Gly Glu Arg Tyr  
 340 345 350  
 Thr Glu Ala Ile Glu Gln Val Leu Arg Asn Glu Ser Ala Ala Lys Leu  
 355 360 365  
 Gln Trp His Val Ile Asn Thr Met Lys Phe Phe His Gly Lys Asn Leu  
 370 375 380  
 Gly Leu Val Thr Glu His Leu Gln Asp Thr Leu Gly Ala Leu Thr Leu  
 385 390 395 400  
 Arg Gln Thr Thr Val Asp Thr His Gln Gly Arg Glu Asp Ala Asp Leu  
 405 410 415  
 Ser Ala Ala Leu Phe Leu Asn Lys Tyr Leu Asn Ser Gly Asn Gln Leu  
 420 425 430  
 Val Asn Ser Val Phe Lys Ser Met Gln Lys Ala Asp Pro Glu Thr Lys  
 435 440 445  
 Ala Leu Ile Arg Glu Phe Ala Leu Asp Ile Leu Tyr Ala Ser Leu Arg  
 450 455 460  
 Leu Pro Gln Thr Ser Ala His Thr Glu Val Phe Ser Thr Leu Leu Met  
 465 470 475 480  
 Asp Pro Glu Thr Tyr Glu Pro Asn Lys Ala Cys Ile Ala Tyr Leu Leu  
 485 490 495  
 Tyr Val Leu Lys Ile Ile Glu Leu  
 500

&lt;210&gt;1037

&lt;211&gt;615

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1037

Lys Gly Phe Ser Phe Ser Lys Val Gly Leu Asn Met Ile Pro Ser Gly  
 1 5 10 15  
 Leu Val Tyr Leu Leu Tyr Pro Leu Gly Phe Leu Ala Ser Leu Phe Phe  
 20 25 30  
 Gly Ser Ala Phe Ser Ile Gln Trp Trp Leu Ser Lys Lys Arg Lys Glu  
 35 40 45  
 Val Tyr Ala Pro Arg Ser Phe Trp Ile Leu Ser Ser Ile Gly Ala Thr  
 50 55 60  
 Leu Met Ile Val His Gly Thr Ile Gln Ser Gln Phe Pro Val Thr Val  
 65 70 75 80  
 Leu His Val Ile Asn Leu Ile Ile Tyr Leu Arg Asn Leu Asn Ile Thr  
 85 90 95  
 Ser Ser Arg Pro Ile Ser Phe Arg Ala Thr Leu Val Leu Met Ala Leu  
 100 105 110  
 Ser Val Val Phe Val Thr Leu Pro Phe Leu Tyr Val Asn Met Glu Trp  
 115 120 125  
 Met Ala Ser Pro Asn Ile Phe His Leu Pro Leu Pro Ala Gln Leu  
 130 135 140  
 Ser Trp His Leu Ile Gly Cys Leu Gly Leu Ala Ile Phe Ser Gly Arg  
 145 150 155 160  
 Phe Leu Ile Gln Trp Phe Tyr Ile Glu Ser Asn Asn Thr Lys Asp Phe  
 165 170 175  
 Pro Leu Leu Phe Trp Lys Ile Gly Leu Leu Gly Gly Leu Leu Ala Leu

180 185  
 Val Tyr Phe Ile Arg Ile Gly Asp Pro Ile Asn Ile Leu Cys Tyr Gly  
 195 200 205  
 Cys Gly Leu Phe Pro Ser Ile Ala Asn Leu Arg Leu Phe Tyr Lys Glu  
 210 215 220  
 Gln Arg Ser Thr Pro Tyr Leu Asp Thr His Cys Phe Leu Ser Ala Gly  
 225 230 235 240  
 Glu Ala Ser Gly Asp Ile Leu Gly Gly Lys Leu Ile Gln Ser Ile Lys  
 245 250 255  
 Ser Leu Tyr Pro Asn Ile Arg Phe Trp Gly Val Gly Gly Pro Ala Met  
 260 265 270  
 Arg Gln Glu Gly Leu Gln Pro Ile Leu Asn Met Glu Glu Phe Gln Val  
 275 280 285  
 Ser Gly Phe Ala Glu Val Leu Gly Ser Leu Phe Arg Leu Tyr Arg Asn  
 290 295 300  
 Tyr Arg Lys Ile Leu Lys Thr Ile Leu Lys His Lys Pro Ala Thr Leu  
 305 310 315 320  
 Ile Phe Ile Asp Phe Pro Asp Phe His Leu Leu Leu Ile Lys Lys Leu  
 325 330 335  
 Arg Lys His Gly Tyr Arg Gly Lys Ile Ile His Tyr Val Cys Pro Ser  
 340 345 350  
 Ile Trp Ala Trp Arg Pro Lys Arg Lys Arg Ile Leu Glu Gln His Leu  
 355 360 365  
 Asp Met Leu Leu Leu Ile Leu Pro Phe Glu Glu Gly Leu Phe Lys Asn  
 370 375 380  
 Thr Ser Leu Glu Thr Val Tyr Leu Gly His Pro Leu Val Glu Glu Ile  
 385 390 395 400  
 Ser Asp Tyr Lys Glu Gln Ala Ser Trp Lys Glu Lys Phe Leu Asn Ser  
 405 410 415  
 Asp Arg Pro Ile Val Ala Ala Phe Pro Gly Ser Arg Arg Gly Asp Ile  
 420 425 430  
 Ser Arg Asn Leu Arg Ile Gln Val Gln Ala Phe Leu Asn Ser Ser Leu  
 435 440 445  
 Ser Gln Thr His Gln Phe Val Val Ser Ser Ser Ser Ala Lys Tyr Asp  
 450 455 460  
 Glu Ile Ile Glu Asp Thr Leu Lys Ala Glu Gly Cys Gln His Ser Gln  
 465 470 475 480  
 Ile Ile Pro Met Asn Phe Arg Tyr Glu Leu Met Arg Ser Cys Asp Cys  
 485 490 495  
 Ala Leu Ala Lys Cys Gly Thr Ile Val Leu Glu Thr Ala Leu Asn Gln  
 500 505 510  
 Thr Pro Thr Ile Val Met Cys Arg Leu Arg Pro Phe Asp Thr Phe Leu  
 515 520 525  
 Ala Lys Tyr Ile Phe Lys Ile Leu Leu Pro Ala Tyr Ser Leu Pro Asn  
 530 535 540  
 Ile Ile Met Asn Ser Val Ile Phe Pro Glu Phe Ile Gly Gly Lys Lys  
 545 550 555 560  
 Asp Phe His Pro Glu Thr Ala Thr Ala Leu Asp Leu Leu Asn Gln  
 565 570 575  
 His Gly Ser Lys Glu Lys Gln Lys Glu Asp Cys Arg Lys Leu Cys Lys  
 580 585 590  
 Val Met Thr Thr Gly Gln Ile Ala Ser Glu Glu Phe Leu Lys Arg Ile  
 595 600 605  
 Phe Asp Thr Leu Pro Ala Val  
 610 615  
 <210>1038  
 <211>430  
 <212>PRT  
 <213>Chlamydia pneumoniae.  
 <400>1038  
 Met Val Cys Glu Asn Asn Ile Leu Ser Gly Arg Gly Leu Glu Leu Leu  
 1 5 10 15  
 Lys Lys Lys Ser Asn Ile Thr Leu Thr Pro Thr Ile Tyr Ser Val Ser  
 20 25 30

Asn His Asn Ile Lys Leu Lys Asp Phe Ser Pro His Leu Ser Val  
 35 40 45  
 Ile Lys Thr Leu Arg Lys Ala Gly Tyr Ile Ala Tyr Ile Val Gly Gly  
 50 55 60  
 Cys Ile Arg Asp Leu Leu Leu Asn Thr Thr Pro Lys Asp Phe Asp Ile  
 65 70 75 80  
 Ser Thr Ser Ala Lys Pro Glu Glu Ile Lys Ala Ile Phe Lys Asn Cys  
 85 90 95  
 Ile Leu Val Gly Lys Arg Phe Arg Leu Ala His Ile Arg Phe Ser Lys  
 100 105 110  
 Gln Ile Ile Glu Val Ser Thr Phe Arg Ser Gly Ser Thr Asp Glu Asp  
 115 120 125  
 Val Leu Ile Thr Lys Asp Asn Leu Trp Gly Thr Pro Glu Glu Asp Val  
 130 135 140  
 Leu Arg Arg Asp Phe Thr Ile Asn Gly Leu Phe Tyr Asp Pro Glu His  
 145 150 155 160  
 Glu Glu Ile Ile Asp Tyr Thr Gly Gly Val Asn Asp Leu Arg Asn Arg  
 165 170 175  
 Tyr Leu Arg Thr Ile Gly Asp Pro Phe Thr Arg Phe Lys Gln Asp Pro  
 180 185 190  
 Val Arg Met Leu Arg Leu Leu Lys Ile Leu Ser Arg Ser Pro Phe Thr  
 195 200 205  
 Val Glu Thr Gln Thr Gln Glu Ala Leu Ile Ala Cys Arg Gln Glu Leu  
 210 215 220  
 Ile Lys Ser Ser Arg Ala Arg Val Phe Glu Glu Leu Ile Lys Met Leu  
 225 230 235 240  
 Asn Ser Gly Ala Ala Lys Asn Phe Phe Gln Leu Leu Ile Glu Asn His  
 245 250 255  
 Leu Leu Glu Ile Leu Phe Pro Tyr Met Asp Lys Ala Phe Arg Leu Asn  
 260 265 270  
 Arg Ala Leu Glu Glu Gln Thr Ala Thr Tyr Leu Lys Ala Leu Asp Asp  
 275 280 285  
 Lys Ile Leu Lys Lys Glu Ala Glu Tyr Asp Arg His Gln Leu Met Ala  
 290 295 300  
 Ile Phe Leu Phe Pro Leu Val Asn Phe Asn Val Arg Tyr Lys His Gln  
 305 310 315 320  
 Lys His Pro Tyr Leu Ser Leu Thr Ser Val Phe Asp Tyr Ile Lys Asn  
 325 330 335  
 Phe Leu Glu Gln Phe Phe Ala Asp Ser Phe Thr Ser Cys Ser Lys Lys  
 340 345 350  
 Asn Phe Ile Leu Thr Ala Leu Ile Leu Gln Met Gln Tyr Arg Leu Thr  
 355 360 365  
 Pro Leu Ile Pro Thr Lys Lys Ala Leu Phe Phe Asn Lys Lys Leu Leu  
 370 375 380  
 His His Thr Arg Phe Leu Glu Ala Leu Ser Leu Leu Glu Ile Arg Ser  
 385 390 395 400  
 Ile Val Tyr Pro Lys Leu Asp Lys Val Tyr Val Ala Trp Ile Arg His  
 405 410 415  
 His Gln Thr Leu Lys Cys Lys Lys Asp Ser His Ser Gln Lys  
 420 425 430

&lt;210&gt;1039

&lt;211&gt;395

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1039

Glu Arg Ile Asp Cys Trp Leu Asn Ser Met Gly Ile Glu Thr Leu Val  
 1 5 10 15  
 Leu Gly Pro Ile Pro Thr Pro Gly Val Ala Phe Ile Thr Arg Ala Tyr  
 20 25 30  
 Arg Ala Asp Ala Gly Ile Met Ile Ser Ala Ser His Asn Pro Tyr Arg  
 35 40 45  
 Asp Asn Gly Ile Lys Ile Phe Ser Leu Glu Gly Phe Lys Ile Ser Asp  
 50 55 60  
 Val Leu Glu Gln Arg Ile Glu Thr Met Val Ser Glu Ala Asp Phe Gly

```

65          70          75          80
Pro Leu Pro Glu Asp His Ala Val Gly Lys Asn Lys Arg Val Ile Asp
85          90          95
Ala Met Gly Arg Tyr Val Glu Phe Val Lys Ala Thr Phe Pro Lys Gly
100        105        110
Arg Thr Leu Lys Gly Leu Lys Ile Val Leu Asp Cys Ala His Gly Ala
115        120        125
Ser Tyr Lys Val Ala Pro Ser Val Phe Glu Glu Leu Asp Ala Glu Val
130        135        140
Ile Cys Tyr Gly Cys Glu Pro Thr Gly Ile Asn Ile Asn Glu His Cys
145        150        155
Gly Ala Leu Phe Pro Gln Val Ile Gln Lys Ala Val Ile Glu His Gln
165        170        175
Ala His Leu Gly Ile Ala Leu Asp Gly Asp Gly Asp Arg Ile Ile Met
180        185        190
Val Asp Glu Lys Gly His Ile Val Asp Gly Asp Met Ile Leu Ser Ile
195        200        205
Cys Ala Gly Asp Leu Lys Lys Arg Ser Ala Leu Pro His Asn Arg Val
210        215        220
Val Ala Thr Ile Met Thr Asn Phe Gly Val Leu Lys Tyr Leu Glu Gly
225        230        235
Leu Gly Leu Gln Val Phe Thr Ser Pro Val Gly Asp Arg His Val Leu
245        250        255
His Ala Met Leu Glu His Glu Val Thr Xaa Gly Gly Glu Gln Ser Gly
260        265        270
His Met Ile Phe Leu Asp Tyr Asn Thr Thr Gly Asp Gly Ile Val Ser
275        280        285
Ala Leu Gln Val Leu Arg Ile Met Ile Glu Ser Glu Ser Met Leu Ser
290        295        300
Asp Leu Thr Ala Pro Ile Val Lys Ser Pro Gln Thr Leu Ile Asn Val
305        310        315
Ala Val Arg Glu Lys Ile Pro Leu Glu Thr Ile Pro Leu Ile Glu Arg
325        330        335
Thr Leu Arg Asp Val Gln Asp Ala Leu Gly Pro Ser Gly Arg Ile Leu
340        345        350
Leu Arg Tyr Ser Gly Thr Glu Asn Ile Cys Arg Val Met Val Glu Gly
355        360        365
His Lys Lys His Gln Val Asp Cys Leu Ala Lys Ala Leu Ala Asp Val
370        375        380
Ile Asp Ala Glu Leu Gly Thr Gly Ser Arg Glu
385        390        395

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&lt;210&gt;1040

&lt;211&gt;161

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1040

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Met Cys Gly Ile Phe Gly Tyr Leu Gly Asn Gln Asp Gly Val Ser Ile
1      5      10      15
Val Leu Glu Gly Leu Ala Lys Leu Glu Tyr Arg Gly Tyr Asp Ser Ala
20     25     30
Gly Leu Ala Ala Val Val Glu Gln Glu Leu Phe Ile Arg Lys Thr Val
35     40     45
Gly Arg Val Gln Glu Leu Ser Asn Leu Phe Gln Glu Arg Glu Ile Pro
50     55     60
Thr Ala Ser Val Ile Gly His Thr Arg Trp Ala Thr His Gly Val Pro
65     70     75     80
Thr Glu Ile Asn Ala His Pro His Val Asp Glu Gly Arg Ser Cys Ala
85     90     95
Val Val His Asn Gly Ile Ile Glu Asn Phe Lys Glu Leu Arg Arg Glu
100    105    110
Leu Thr Ala Gln Gly Ile Ser Phe Ala Ser Asp Thr Asp Ser Glu Ile
115    120    125
Ile Val Gln Leu Phe Ser Leu Tyr Tyr Gln Glu Ser Gln Asp Leu Val
130    135    140

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Phe Ser Phe Cys Gln Thr Leu Ala Gln Leu Arg Gly Ser Val Ala Ala  
 145 150 155 160  
 Leu

&lt;210&gt;1041

&lt;211&gt;307

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1041

Arg Ser Cys Ala Leu Ile His Lys Asp His Pro His Thr Ile Leu Cys  
 1 5 10 15  
 Ala Ser Gln Glu Ser Pro Leu Ile Leu Gly Leu Gly Lys Glu Glu Thr  
 20 25 30  
 Phe Ile Ala Ser Asp Ser Arg Ala Phe Phe Lys Tyr Thr Arg His Ser  
 35 40 45  
 Gln Ala Leu Ala Ser Gly Glu Phe Ala Ile Val Ser Gln Gly Lys Glu  
 50 55 60  
 Pro Glu Val Tyr Asn Leu Glu Leu Lys Lys Ile His Lys Asp Val Arg  
 65 70 75 80  
 Gln Ile Thr Cys Ser Glu Asp Ala Ser Asp Lys Ser Gly Tyr Gly Tyr  
 85 90 95  
 Tyr Met Leu Lys Glu Ile Tyr Asp Gln Pro Glu Val Leu Glu Gly Leu  
 100 105 110  
 Ile Gln Lys His Met Asp Glu Glu Gly His Ile Leu Ser Glu Phe Leu  
 115 120 125  
 Ser Asp Val Pro Ile Lys Ser Phe Lys Glu Ile Thr Ile Val Ala Cys  
 130 135 140  
 Gly Ser Ser Tyr His Ala Gly Tyr Leu Ala Lys Tyr Ile Ile Glu Ser  
 145 150 155 160  
 Leu Val Ser Ile Pro Val His Ile Glu Val Ala Ser Glu Phe Arg Tyr  
 165 170 175  
 Arg Arg Pro Tyr Ile Gly Lys Asp Thr Leu Gly Ile Leu Ile Ser Gln  
 180 185 190  
 Ser Gly Glu Thr Ala Asp Thr Leu Ala Ala Leu Lys Glu Leu Arg Arg  
 195 200 205  
 Arg Asn Ile Ala Tyr Leu Leu Gly Ile Cys Asn Val Pro Glu Ser Ala  
 210 215 220  
 Ile Ala Leu Gly Val Asp His Cys Leu Phe Leu Glu Ala Gly Val Glu  
 225 230 235 240  
 Ile Gly Val Ala Thr Lys Ala Phe Thr Ser Gln Leu Leu Leu Leu  
 245 250 255  
 Val Phe Leu Gly Leu Lys Leu Ala Asn Val His Gly Ala Leu Thr His  
 260 265 270  
 Ala Glu Gln Cys Ser Phe Gly Gln Gly Leu Gln Ser Leu Pro Asp Leu  
 275 280 285  
 Cys Gln Lys Leu Leu Ala Gln Arg Val Ser Pro Phe Leu Gly Ala Ala  
 290 295 300  
 Leu Leu Leu  
 305

&lt;210&gt;1042

&lt;211&gt;182

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1042

Leu Thr Gln Asn Asn Val Pro Leu Ala Arg Asp Tyr Lys Ala Tyr Gln  
 1 5 10 15  
 Ile Ser Val Lys Asn Phe Leu Pro Asn Glu Ser Leu His Ser Trp Ala  
 20 25 30  
 Gln Pro Tyr Ser Tyr Glu Asp Lys Phe Leu Phe Leu Gly Arg Arg Leu  
 35 40 45  
 Met Tyr Pro Val Val Met Glu Ala Ala Leu Lys Leu Lys Glu Ile Ala  
 50 55 60  
 Tyr Ile Glu Ala Asn Ala Tyr Pro Gly Gly Glu Met Lys His Gly Pro  
 65 70 75 80

Ile Ala Leu Ile Ser Lys Gly Thr Pro Val Ile Ala Phe Cys Gly Asp  
                   85                  90                  95  
 Asp Ile Val Tyr Glu Lys Met Ile Gly Asn Met Met Glu Val Lys Ala  
                   100                  105                  110  
 Arg His Ala His Val Ile Ala Ile Ala Pro Glu Ser Arg Glu Asp Ile  
                   115                  120                  125  
 Ala Ala Val Ser Asp Gln Gln Ile Phe Val Pro Asp Cys His Phe Leu  
                   130                  135                  140  
 Ala Ala Pro Val Leu Tyr Thr Ile Val Gly Gln Val Met Ala Tyr Ala  
                   145                  150                  155                  160  
 Met Ala Leu Ala Lys Gly Met Glu Ile Asp Cys Pro Arg Asn Leu Ala  
                   165                  170                  175  
 Lys Ser Val Thr Val Glu  
                   180

&lt;210&gt;1043

&lt;211&gt;259

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1043

Ser His Asp Leu Asp Xaa Arg Ile Lys Glu Pro Ser Glu His Ala Phe  
   1                  5                  10                  15  
 Tyr Gly Gly Ile Tyr Phe Arg Ser Cys Arg Gln Asp Phe Tyr Met Pro  
                   20                  25                  30  
 Cys Leu Leu Val Ser Leu Leu Leu Pro Thr Asp Cys Tyr Phe Cys Glu  
                   35                  40                  45  
 Gly Gly Asn Ile Leu Cys Arg Val Phe Asn Cys Gln Asn Leu Gly Ile  
                   50                  55                  60  
 Ser Trp Ile Arg His Leu Gly Pro Leu Gly Phe Ala Ile Leu Met Gly  
                   65                  70                  75                  80  
 Pro Ile Ile Met Ala Gly Thr Lys Val Ile Asp Tyr Cys Asn Arg Phe  
                   85                  90                  95  
 Phe Met Phe Gly Leu Thr Val Ala Phe Gly Ile Phe Cys Ala Leu Gly  
                   100                  105                  110  
 Phe Leu Lys Ile Gln Pro Ser Phe Leu Val Arg Ser Ser Trp Leu Thr  
                   115                  120                  125  
 Thr Ile Asn Ala Phe Pro Val Phe Phe Leu Ala Phe Gly Phe Gln Ser  
                   130                  135                  140  
 Ile Ile Pro Thr Leu Tyr Tyr Tyr Met Asp Lys Lys Val Gly Asp Val  
                   145                  150                  155                  160  
 Lys Lys Ala Ile Leu Ile Gly Thr Leu Ile Pro Leu Val Leu Tyr Val  
                   165                  170                  175  
 Leu Trp Glu Val Val Val Leu Gly Ala Val Ser Leu Pro Ile Leu Ser  
                   180                  185                  190  
 Gln Ala Lys Ile Gly Gly Tyr Thr Ala Val Glu Ala Leu Lys Gln Ala  
                   195                  200                  205  
 His Arg Ser Trp Ala Phe Tyr Ile Ala Gly Glu Leu Phe Gly Phe Phe  
                   210                  215                  220  
 Ala Leu Val Ser Ser Phe Val Gly Val Ala Leu Gly Val Met Asp Phe  
                   225                  230                  235                  240  
 Leu Ala Asp Gly Leu Lys Trp Asn Lys Lys Ser His Pro Asn Phe Gln  
                   245                  250                  255  
 Phe Ser Phe

&lt;210&gt;1044

&lt;211&gt;241

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1044

Glu Gly Ser Met Gly Leu Tyr Asp Arg Asp Tyr Ile Gln Asp Ser Arg  
   1                  5                  10                  15  
 Val Gln Gly Thr Phe Ala Ser Arg Val Tyr Gly Trp Met Thr Ala Gly  
                   20                  25                  30  
 Leu Ile Val Thr Ser Cys Val Ala Leu Gly Leu Tyr Phe Ser Gly Leu  
                   35                  40                  45

Tyr Arg Ser Leu Phe Ser Phe Trp Trp Val Trp Cys Phe Ala Thr Leu  
 50 55 60  
 Gly Val Ser Phe Phe Ile Asn Ser Lys Ile Gln Thr Leu Ser Val Ser  
 65 70 75 80  
 Ala Val Gly Gly Leu Phe Leu Leu Tyr Ser Thr Leu Glu Gly Met Phe  
 85 90 95  
 Phe Gly Thr Leu Leu Pro Val Tyr Ala Ala Gln Tyr Gly Gly Gly Val  
 100 105 110  
 Ile Trp Ala Ala Phe Gly Ser Ala Ala Leu Val Phe Gly Leu Ala Ala  
 115 120 125  
 Val Tyr Gly Ala Phe Thr Lys Ser Asp Leu Thr Lys Ile Ser Lys Ile  
 130 135 140  
 Met Thr Phe Ala Leu Ile Gly Leu Leu Leu Val Thr Leu Val Phe Ala  
 145 150 155 160  
 Val Val Ser Met Phe Val Ser Met Pro Leu Ile Tyr Leu Leu Ile Cys  
 165 170 175  
 Tyr Leu Gly Leu Val Ile Phe Val Gly Leu Thr Ala Ala Asp Ala Gln  
 180 185 190  
 Ala Ile Arg Arg Ile Ser Ser Thr Ile Gly Asp Asn Asn Thr Leu Ser  
 195 200 205  
 Tyr Lys Leu Ser Leu Met Phe Ala Leu Lys Met Tyr Cys Asn Val Ile  
 210 215 220  
 Met Val Phe Trp Tyr Leu Leu Gln Ile Phe Ser Ser Ser Gly Asn Arg  
 225 230 235 240  
 Asp

&lt;210&gt;1045

&lt;211&gt;316

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1045

Arg Cys Ile Asn Asn Ser Leu Leu Phe Pro Ser Tyr Leu Val Ser Phe  
 1 5 10 15  
 Leu Leu Leu Gln Leu Thr Leu Leu Leu Ala Met Phe Lys Phe Phe Arg  
 20 25 30  
 Asn Lys Leu Gln Ser Leu Phe Lys Lys Asn Ile Ser Leu Asp Leu Ile  
 35 40 45  
 Glu Asp Ala Glu Ser Leu Phe Tyr Glu Ala Asp Phe Gly Thr Glu Leu  
 50 55 60  
 Thr Glu Glu Leu Cys Ala Arg Leu Arg Arg Thr Lys Lys Ala Asp Ala  
 65 70 75 80  
 Ser Thr Ile Lys Asp Leu Ile Thr Val Leu Leu Arg Glu Ser Leu Glu  
 85 90 95  
 Gly Leu Pro Ser Gln Ala Ser Gln Ser Ser Gln Thr Arg Pro Ile Val  
 100 105 110  
 Ser Leu Leu Leu Gly Thr Asn Gly Ser Gly Lys Thr Thr Thr Ala Ala  
 115 120 125  
 Lys Leu Ala His Tyr Tyr Lys Glu Arg Ser Glu Ser Val Met Leu Val  
 130 135 140  
 Ala Thr Asp Thr Phe Arg Ala Ala Gly Met Asp Gln Ala Arg Leu Trp  
 145 150 155 160  
 Ala Asn Glu Leu Gly Cys Gly Phe Val Ser Gly Gln Pro Gly Gly Asp  
 165 170 175  
 Ala Ala Ala Ile Ala Phe Asp Gly Ile Gln Ser Ala Ile Ala Arg Gly  
 180 185 190  
 Tyr Ser Arg Val Ile Ile Asp Thr Ser Gly Arg Leu His Val His Gly  
 195 200 205  
 Asn Leu Met Lys Glu Leu Ser Lys Ile Val Ser Val Cys Gly Lys Ala  
 210 215 220  
 Leu Glu Gly Ala Pro His Glu Ile Phe Met Thr Val Asp Ser Thr Leu  
 225 230 235 240  
 Gly Asn Asn Ala Ile Glu Gln Val Arg Val Phe His Asp Val Val Pro  
 245 250 255  
 Leu Ser Gly Leu Ile Phe Thr Lys Val Asp Gly Ser Ala Lys Gly Gly



260 265 270  
 Thr Leu Phe Gln Ile Ala Lys Arg Leu Lys Ile Pro Thr Lys Phe Ile  
 275 280 285  
 Gly Tyr Gly Glu Ser Leu Lys Asp Leu Asn Glu Phe Asp Leu Asp Leu  
 290 295 300  
 Phe Leu Asn Lys Leu Phe Pro Glu Val Glu Lys Ile  
 305 310 315  
 <210>1046  
 <211>386  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1046  
 Met His Leu His Glu Tyr Gln Ala Lys Asp Leu Leu Ala Ser Tyr Asp  
 1 5 10 15  
 Val Pro Ile Pro Pro Tyr Trp Val Val Ser Ser Glu Glu Glu Gly Glu  
 20 25 30  
 Leu Leu Ile Thr Lys Ser Gly Leu Asp Ser Ala Val Val Lys Val Gln  
 35 40 45  
 Val His Ala Gly Gly Arg Gly Lys His Gly Gly Val Ile Val Ala Lys  
 50 55 60  
 Ser Ser Ala Gly Ile Leu Gln Ala Val Ala Lys Leu Leu Gly Met His  
 65 70 75 80  
 Phe Thr Ser Asn Gln Thr Ala Asp Gly Phe Leu Pro Val Glu Lys Val  
 85 90 95  
 Leu Ile Ser Pro Leu Val Ala Ile Gln Arg Glu Tyr Tyr Val Ala Val  
 100 105 110  
 Ile Met Asp Arg Lys His Arg Cys Pro Val Leu Met Leu Ser Lys Ala  
 115 120 125  
 Gly Gly Met Asp Ile Glu Glu Val Ala His Ser Ser Pro Glu Gln Ile  
 130 135 140  
 Leu Thr Leu Pro Leu Thr Ser Tyr Gly His Ile Tyr Ser Tyr Gln Leu  
 145 150 155 160  
 Arg Gln Ala Thr Lys Phe Met Glu Trp Glu Gly Glu Val Met His Gln  
 165 170 175  
 Gly Val Gln Leu Ile Lys Lys Leu Ala Lys Cys Phe Tyr Glu Asn Asp  
 180 185 190  
 Val Ser Leu Leu Glu Ile Asn Pro Leu Val Leu Thr Leu Glu Gly Glu  
 195 200 205  
 Leu Leu Val Leu Asp Ser Lys Ile Thr Ile Asp Asp Asn Ala Leu Tyr  
 210 215 220  
 Arg His Pro Asn Leu Glu Val Leu Tyr Asp Pro Ser Gln Glu Asn Val  
 225 230 235 240  
 Arg Asp Val Leu Ala Lys Gln Ile Gly Leu Ser Tyr Ile Ala Leu Ser  
 245 250 255  
 Gly Asn Ile Gly Cys Ile Val Asn Gly Ala Gly Leu Ala Met Ser Thr  
 260 265 270  
 Leu Asp Ile Leu Lys Leu His Gly Gly Asn Ala Ala Asn Phe Leu Asp  
 275 280 285  
 Val Gly Gly Gly Ala Ser Gln Lys Lys Gln Ile Gln Glu Ala Val Ser Leu  
 290 295 300  
 Val Leu Ser Asp Glu Ser Val Lys Val Leu Phe Ile Asn Ile Phe Gly  
 305 310 315 320  
 Xaa Ile Met Asp Cys Ser Val Val Ala Ser Gly Leu Val Ala Val Met  
 325 330 335  
 Glu Thr Arg Asp Gln Val Val Pro Thr Val Ile Arg Leu Glu Gly Thr  
 340 345 350  
 Asn Val Glu Leu Gly Lys Glu Ile Val Gln Gln Ser Gly Ile Pro Cys  
 355 360 365  
 Gln Phe Val Ser Ser Met Glu Glu Gly Ala Arg Arg Ala Val Glu Leu  
 370 375 380  
 Ser Met  
 385  
 <210>1047  
 <211>300

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1047

Val Cys Arg Phe Arg Arg Tyr Met Phe His Ser Leu Ser Lys Asn Thr  
 1 5 10 15  
 Pro Ile Ile Thr Gln Gly Ile Thr Gly Lys Ala Gly Ser Phe His Thr  
 20 25 30  
 Glu Gln Cys Leu Ala Tyr Gly Thr Asn Phe Val Gly Gly Val Thr Pro  
 35 40 45  
 Gly Lys Gly Gly Thr Leu Trp Leu Asp Leu Pro Val Tyr Asp Ser Val  
 50 55 60  
 Leu Glu Ala Lys Gln Ala Thr Gly Cys Arg Ala Thr Met Ile Phe Val  
 65 70 75 80  
 Pro Pro Pro Tyr Ala Ala Glu Ala Ile Leu Glu Ala Glu Glu Ala Gly  
 85 90 95  
 Ile Glu Leu Ile Val Cys Ile Thr Glu Gly Ile Pro Val Arg Asp Met  
 100 105 110  
 Leu Glu Val Ala Arg Val Met Asp Asn Ser Thr Ser Gln Leu Ile Gly  
 115 120 125  
 Pro Asn Cys Pro Gly Ile Ile Lys Pro Gly Glu Cys Lys Ile Gly Ile  
 130 135 140  
 Met Pro Gly Tyr Ile His Leu Pro Gly Asn Ile Gly Val Val Ser Arg  
 145 150 155 160  
 Ser Gly Thr Leu Thr Tyr Glu Ala Val Trp Gln Leu Thr Gln Leu Lys  
 165 170 175  
 Ile Gly Gln Ser Ile Cys Val Gly Ile Gly Gly Asp Pro Leu Asn Gly  
 180 185 190  
 Thr Ser Phe Ile Asp Val Leu Gln Ala Leu Glu Glu Asp Pro Tyr Thr  
 195 200 205  
 Glu Leu Ile Leu Met Ile Gly Glu Ile Gly Gly Ser Ala Glu Glu Glu  
 210 215 220  
 Ala Ala Ala Trp Ile Gln Ala His Cys Thr Lys Pro Val Val Ala Phe  
 225 230 235 240  
 Ile Ala Gly Val Thr Ala Pro Lys Gly Lys Arg Met Gly His Ala Gly  
 245 250 255  
 Ala Ile Ile Ser Gly Asn Ser Gly Asp Ala Lys Ser Lys Ile Gln Val  
 260 265 270  
 Leu Arg Glu Ser Gly Val Thr Val Val Glu Ser Pro Ala His Ile Gly  
 275 280 285  
 Lys Thr Val Asp Ala Val Leu Arg Ala Lys Glu Leu  
 290 295 300

&lt;210&gt;1048

&lt;211&gt;369

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1048

Ile Leu Met Leu Val Tyr Cys Phe Asp Pro Ser Val Pro Thr Ser Pro  
 1 5 10 15  
 Glu His Arg Leu Met Ala Ala Leu Asp Arg Trp Phe Phe Leu Gly Gly  
 20 25 30  
 His Arg Val Arg Ile Leu Thr Leu Glu Gly Asn His Tyr Arg Ala Phe  
 35 40 45  
 Gln Glu Asn Met Ser Ile Ser Thr Val Glu Lys Ile Leu Lys Leu Ile  
 50 55 60  
 Ser Tyr Leu Leu Ile Pro Ile Val Leu Ile Ala Leu Leu Ile Arg Cys  
 65 70 75 80  
 Phe Leu His Ser Arg Phe Lys Cys Asn Trp Lys Cys Asp Ser Leu Ser  
 85 90 95  
 Asp Ala Arg Val Pro His Asp Val Gln Pro Phe Asn Asp Phe Gln Leu  
 100 105 110  
 Phe Asn Asn Gln Glu Arg Leu Asn Ile Trp Lys Asn Arg Arg Tyr Val  
 115 120 125  
 Ser Gly Ile Asp Val Leu Met Val Pro Val Asp Tyr Leu Arg Ser Gln  
 130 135 140

Phe Pro Gly Phe Lys Glu Ile Pro Glu Ala Ile Arg Cys Glu Asn Tyr  
 145 150 155 160  
 Val Ser Asp Gly Gln Phe Ser Glu Glu Ser Lys Thr Ser Tyr Leu Arg  
 165 170 175  
 Ala Met Leu Thr Asp Ile Val Gly Tyr Ile Leu Ser Leu Asp Glu Thr  
 180 185 190  
 Tyr Trp Thr Asn Val Ile Leu Lys Ile Arg Ala Met Cys Ile Thr Phe  
 195 200 205  
 Glu Ser Phe Pro Gly Lys Glu Ala Asp Pro Asn Tyr Ser Pro Arg Val  
 210 215 220  
 Thr His His Tyr Phe Asp Glu Ser Trp Lys Ala Leu Ala Arg His Val  
 225 230 235 240  
 Leu Gly Glu Gly Asn Met Val Asn Arg Leu Asp Glu Ala Leu Ile Arg  
 245 250 255  
 Thr Glu Lys Pro Gly Lys Glu Gly Glu Cys Ile Thr Lys Gln Phe Leu  
 260 265 270  
 Lys Asp Tyr Cys Lys Lys His Leu Glu Val Met Ser Cys Pro Asp Phe  
 275 280 285  
 Ile Glu Ser Leu Val Asp Glu Lys Ile Arg Glu Phe Arg Cys Pro Ser  
 290 295 300  
 Ile Leu Asn Ser Ala Val Cys Asp Val Ile Asp Arg Lys Cys Gln Glu  
 305 310 315 320  
 His Leu Leu Lys Ala Ile Ile Asn Glu Ala Asn Arg Arg Leu Pro Gly  
 325 330 335  
 Met Lys Asn Ser Ser Phe Thr Met Arg Gly Asn Gln Val Leu Phe Tyr  
 340 345 350  
 Thr Ile Phe Ser Pro Pro Lys Leu Pro Pro Ala Ala Ser Ser Val Tyr  
 355 360 365  
 Phe

&lt;210&gt;1049

&lt;211&gt;358

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1049

Leu Tyr Ile Asn Gln Phe Ala Asn Ile Leu Lys Ser Ser Phe Leu Met  
 1 5 10 15  
 Glu Val Tyr Ser Phe Ser Pro Ser Val Arg Thr Ser Phe Gln His Arg  
 20 25 30  
 Val Met Ala Ala Leu Asp Asn Trp Phe Phe Leu Gly Gly Arg Arg Leu  
 35 40 45  
 Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly Gln Ala Cys Glu Glu  
 50 55 60  
 Tyr Val Pro Ile Ser Thr Thr Glu Lys Val Leu Lys Ile Leu Ser Tyr  
 65 70 75 80  
 Leu Leu Ile Pro Ile Val Ile Ile Ala Leu Leu Ile Arg Tyr Leu Leu  
 85 90 95  
 His Ser Asn Phe Thr Ala Lys Val Ser Gln Lys Pro Trp Leu Lys Thr  
 100 105 110  
 Leu Gln Leu Gly Ile Asp Ile Lys Ser Phe Ile Leu Pro Gly Ser His  
 115 120 125  
 Val Asn Thr Met Asp Ser Ala Thr Leu Phe Lys Ala Ile Arg Leu Glu  
 130 135 140  
 Gly Lys Arg Val Asp Val Glu Tyr His Arg Leu His Ser Ser Asp Lys  
 145 150 155 160  
 Val Val Phe Tyr Ile Pro Ala Gln Lys Leu Pro Asp Asp Leu Arg Leu  
 165 170 175  
 Thr His Trp Leu Pro Glu Lys Glu Thr Arg Lys Thr Glu Tyr Val Arg  
 180 185 190  
 His Met Leu Ala His Val Met Gly Tyr Leu Thr Ser Gln Gly Lys Glu  
 195 200 205  
 Arg Leu Gln Gln Val Val Gln Asp Ser Arg Ser Ser Thr Ser Leu Gly  
 210 215 220  
 Ala Glu Lys Val Leu Gln Tyr Arg Phe Ile Asp His Pro Gln Ser Gln

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225          230          235          240
Gly Glu Phe Gln Arg Leu Leu Asn Glu Asn Ile Thr Thr Lys Gly Ser
      245          250          255
Glu Asp Lys Glu Val Val Gln Ser Asp Leu Phe Asp Met Ala Phe Gln
      260          265          270
Cys Trp Trp Pro Gln Phe Ile Ser Val Ile Gln Ser Pro Thr Phe Ser
      275          280          285
Glu Glu Leu Val His Glu Met Ser Gln Lys Leu Asp Leu Asp Cys Ile
      290          295          300
Tyr Pro Glu Asp Asp Glu Phe Glu Gln Lys Phe Leu Asn Thr Leu Leu
305          310          315          320
Lys Ala Val Leu His His Gly Phe Glu Gly Ile Ser Val Ala Ser Met
      325          330          335
Gly Val Ile Phe Leu Ile Cys Pro Asp Ser Leu Ala Leu Gln Ile Pro
      340          345          350
Phe Leu Arg Asn Gln Lys
      355
<210>1050
<211>338
<212>PRT
<213>Chlamydia pneumoniae
<400>1050
Phe Ser Pro Ala Val Arg Thr Ser Phe Gln His Arg Val Met Ala Ala
  1          5          10          15
Leu Asp Ala Trp Phe Phe Leu Gly Gly His Arg Leu Lys Val Val Ser
      20          25          30
Leu Asp Ser Cys Asn Ser Gly Trp Ala Tyr Gln Glu Leu Val Ser Ile
      35          40          45
Ser Thr Thr Glu Lys Val Leu Lys Leu Leu Ser Tyr Leu Leu Val Pro
      50          55          60
Ile Val Ile Ile Ala Leu Ile Arg Cys Leu Leu His Ser Asn Phe
      65          70          75          80
Arg Ile Asp Val Glu Lys Glu Arg Trp Leu Lys Ile Arg Glu Leu Gly
      85          90          95
Ile Asp Ile Glu Ser Cys Lys Leu Pro Ser Ser Tyr Val Asn Gln Val
      100          105          110
Ser Ser Phe Ile Trp Phe Glu Lys Asp Lys Ser Lys Arg Pro Arg Ile
      115          120          125
Asp Val Asp Tyr His Thr Leu His Ser Lys Asp Trp Val Val Phe Pro
      130          135          140
Ile Val Phe Gln Lys Ile Pro Lys Thr Ser Arg Phe Ser Tyr Trp Phe
145          150          155          160
Ser Gln Lys Glu Thr Arg Lys Arg Asp Tyr Val Arg Asn Met Leu Asp
      165          170          175
His Val Ile Gly Tyr Leu Thr Ser Glu Gly Gly Glu Trp Leu Gln Tyr
      180          185          190
Ile Ser Lys Thr Ser Tyr Gln Ser Ala Thr Ser Leu Asp Pro Glu Arg
      195          200          205
Val Leu Gln Tyr Cys Leu Thr Asp Asn Gln Glu Leu Gln Gly Glu Val
      210          215          220
Gln Arg Leu Leu Asn Glu Glu Ser Ala Thr Lys Ser Ser Gly Asp Lys
225          230          235          240
Glu Val Leu Leu Ser His Val Ser Asp Ile Ile Cys Gln Cys Trp Trp
      245          250          255
Pro Lys Phe Leu Glu Val Ile Gln Ser Pro Ala Phe Ile Glu Glu Leu
      260          265          270
Val Glu Glu Val Ser Gly Lys Leu Asn Leu Asp Phe Leu Cys Leu Glu
      275          280          285
Lys Ala Asn Thr Leu Asp Gln Glu Leu Arg Asn Ser Leu Leu Arg Ala
      290          295          300
Val Val His His Gly Ser Glu Gly Val Asp Ile Lys Lys Val Gly Ala
305          310          315          320
Gly Leu Ile Ile Tyr Thr Glu Ala Ile Gln Leu Gln Ile Pro Phe Ser
      325          330          335

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Arg Ser

&lt;210&gt;1051

&lt;211&gt;245

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1051

Gly Ile Asp Met Ile Thr Lys Gln Leu Arg Ser Trp Leu Ala Val Leu  
 1 5 10 15  
 Val Gly Ser Ser Leu Leu Ala Leu Pro Leu Ser Gly Gln Ala Val Gly  
 20 25 30  
 Lys Lys Glu Ser Arg Val Ser Glu Leu Pro Gln Asp Val Leu Leu Lys  
 35 40 45  
 Glu Ile Ser Gly Gly Phe Ser Lys Val Ala Thr Lys Ala Thr Pro Ala  
 50 55 60  
 Val Val Tyr Ile Glu Ser Phe Pro Lys Ser Gln Ala Val Thr His Pro  
 65 70 75 80  
 Ser Pro Gly Arg Arg Gly Pro Tyr Glu Asn Pro Phe Asp Tyr Phe Asn  
 85 90 95  
 Asp Glu Phe Phe Asn Arg Phe Phe Gly Leu Pro Ser Gln Arg Glu Lys  
 100 105 110  
 Pro Gln Ser Lys Glu Ala Val Arg Gly Thr Gly Phe Leu Val Ser Pro  
 115 120 125  
 Asp Gly Tyr Ile Val Thr Asn Asn His Val Val Glu Asp Thr Gly Lys  
 130 135 140  
 Ile His Val Thr Leu His Asp Gly Gln Lys Tyr Pro Ala Thr Val Ile  
 145 150 155 160  
 Gly Leu Asp Pro Lys Thr Asp Leu Ala Val Ile Lys Ile Lys Ser Gln  
 165 170 175  
 Asn Leu Pro Tyr Leu Ser Phe Gly Asn Ser Asp His Leu Lys Val Gly  
 180 185 190  
 Asp Trp Ala Ile Ala Ile Gly Asn Pro Phe Gly Leu Gln Ala Thr Val  
 195 200 205  
 Thr Val Val Ser Ser Val Leu Lys Glu Glu Ile Asn Ser Thr Leu Gln  
 210 215 220  
 Ile Leu Lys Ile Leu Phe Arg Gln Met Leu Arg Leu Ile Gln Ala Thr  
 225 230 235 240  
 Leu Glu Ala Leu Phe  
 245

&lt;210&gt;1052

&lt;211&gt;317

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1052

Ile Pro Lys Pro Pro Val Ser Phe Phe Trp Lys Leu Arg Pro Leu Lys  
 1 5 10 15  
 Ser Arg Arg Leu Gly Asn Cys Asn Trp Lys Ser Leu Arg Ser Ser Ser  
 20 25 30  
 Tyr Gly His Arg Ser Val Ile Ser Ala Lys Gly Arg Asn Gln Leu His  
 35 40 45  
 Ile Ala Asp Phe Glu Asp Phe Ile Gln Thr Asp Ala Ala Ile Asn Pro  
 50 55 60  
 Gly Asn Ser Gly Gly Pro Leu Leu Asn Ile Asp Gly Gln Val Ile Gly  
 65 70 75 80  
 Val Asn Thr Ala Ile Val Ser Gly Ser Gly Gly Tyr Ile Gly Ile Gly  
 85 90 95  
 Phe Ala Ile Pro Ser Leu Met Ala Asn Arg Ile Ile Asp Gln Leu Ile  
 100 105 110  
 Arg Asp Gly Gln Val Thr Arg Gly Phe Leu Gly Val Thr Leu Gln Pro  
 115 120 125  
 Ile Asp Ala Glu Leu Ala Ala Cys Tyr Lys Leu Glu Lys Val Tyr Gly  
 130 135 140  
 Ala Leu Val Thr Asp Val Lys Gly Ser Pro Ala Asp Lys Ala Gly  
 145 150 155 160

Leu Lys Gln Glu Asp Val Ile Ile Ala Tyr Asn Gly Lys Glu Val Asp  
 165 170 175  
 Ser Leu Ser Met Phe Arg Asn Ala Val Ser Leu Met Asn Pro Asp Thr  
 180 185 190  
 Arg Ile Val Leu Lys Val Val Arg Glu Gly Lys Val Ile Glu Ile Pro  
 195 200 205  
 Val Thr Val Ser Gln Ala Pro Lys Glu Asp Gly Met Ser Ala Leu Gln  
 210 215 220  
 Arg Val Gly Ile Arg Val Gln Asn Leu Thr Pro Glu Thr Ala Lys Lys  
 225 230 235 240  
 Leu Gly Ile Ala Pro Glu Thr Lys Gly Ile Leu Ile Ile Ser Val Glu  
 245 250 255  
 Pro Gly Ser Val Ala Ala Ser Ser Gly Ile Ala Pro Gly Gln Leu Ile  
 260 265 270  
 Leu Ala Val Asn Arg Gln Lys Val Ser Ser Ile Glu Asp Leu Asn Arg  
 275 280 285  
 Thr Leu Lys Asp Ser Asn Asn Glu Asn Ile Leu Leu Met Val Ser Gln  
 290 295 300  
 Gly Asp Val Ile Arg Phe Ile Ala Leu Lys Pro Glu Glu  
 305 310 315

&lt;210&gt;1053

&lt;211&gt;104

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1053

Arg Phe Ser Tyr Glu Ile Leu Pro Gly Gly Ser Arg Gly Trp Arg Ser  
 1 5 10 15  
 Ser Ala Asn Leu Pro Ile Val Lys Val Leu Gln Glu Ile Tyr Ser Asp  
 20 25 30  
 Leu Tyr Asn Glu Glu Cys Leu Arg Leu Val Met Pro Ala Thr Ile Pro  
 35 40 45  
 Ile Gly Pro Leu Leu Gly Glu Ala Ala Gln Thr Ser Pro Ile Ile Cys  
 50 55 60  
 Gly Thr Ser Tyr Leu Ser Asp Asp Ile His Ala Ala Glu Glu His Phe  
 65 70 75 80  
 Ser Met Asp Gln Leu Lys Lys Gly Phe Leu Ser Ile Cys Gln Leu Leu  
 85 90 95  
 Asp Lys Leu Pro Lys Ile Lys Glu  
 100

&lt;210&gt;1054

&lt;211&gt;393

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1054

Met Leu Asn His Ala Lys Lys His Ala Lys Pro Tyr Val Leu Ile Phe  
 1 5 10 15  
 Phe Ser Thr Lys Asp Lys Leu Ser Tyr Cys Asp Ile Ile Phe Asn Asn  
 20 25 30  
 Cys Ser Gly Lys Pro Met Asn Leu Asp Ser Lys His Phe Asp Ile Asn  
 35 40 45  
 Ser Ala Asn Phe Leu Glu Glu Phe Ala Lys Phe Ile Ser Phe Pro Ser  
 50 55 60  
 Ile Ser Ala Asp Ser Asp His Leu Gln Asp Cys Glu Asn Cys Ala His  
 65 70 75 80  
 Phe Leu Val Asp His Val Asn Lys Ile Phe Asp Val Glu Leu Trp Glu  
 85 90 95  
 Thr Pro Gly His Pro Pro Ile Ile Tyr Ala Ser Tyr Lys Ser Glu Asp  
 100 105 110  
 Pro Leu Ser Pro Thr Leu Met Leu Tyr Asn His Tyr Asp Val Gln Pro  
 115 120 125  
 Ala Gln Leu Ser Asp Gly Trp Lys Gly Asp Pro Phe Ile Leu Arg Glu  
 130 135 140  
 Glu Asn Gly Asn Leu Tyr Ala Arg Gly Ala Ser Asp Asn Lys Gly Gln  
 145 150 155 160

Cys Phe Tyr Thr Leu Lys Ala Leu Gln His Tyr Tyr Glu Ser Gln Gly  
 165 170 175  
 Asn Phe Pro Leu Asn Ile Ile Trp Leu Ile Glu Gly Glu Glu Ser  
 180 185 190  
 Gly Ser Leu Ala Leu Phe Thr Trp Leu Glu Lys Lys Lys Glu Ala Leu  
 195 200 205  
 Arg Ala Asp Tyr Leu Leu Ile Val Asp Gly Gly Phe Leu Ser Glu Lys  
 210 215 220  
 His Pro Tyr Val Ser Ile Gly Ala Arg Gly Ile Val Ser Met Lys Ile  
 225 230 235 240  
 Ser Leu Glu Glu Gly Asn Lys Asp Met His Ser Gly Val Leu Gly Gly  
 245 250 255  
 Ile Ala Tyr Asn Thr Asn Arg Ala Leu Ser Glu Ile Leu Ser Ser Leu  
 260 265 270  
 His His Pro Asp Asn Ser Ile Ala Ile Glu Gly Phe Tyr Asp Asp Leu  
 275 280 285  
 Ala Leu Pro Ser Asp Ser Asp Arg Pro Asp Leu Pro Lys Ser Asp Thr  
 290 295 300  
 Leu Arg Glu Cys Glu Glu Asn Leu Gly Phe Arg Pro Gln Gly Tyr Glu  
 305 310 315 320  
 Ala Ser Tyr Ser Pro Glu Glu Ser Ala Leu Arg Pro Thr Val Glu Ile  
 325 330 335  
 Asn Gly Ile Ser Gly Gly Tyr Thr Gly Pro Gly Phe Lys Thr Val Ile  
 340 345 350  
 Pro Tyr Arg Ala Thr Ala Tyr Leu Ser Cys Arg Leu Val Pro Asn Gln  
 355 360 365  
 Asp Pro Asp Lys Ala Ala His Gln Val Ile His His Leu Lys Gln Gln  
 370 375 380  
 Val Pro Ser Ser Leu Lys Val Leu Leu  
 385 390

&lt;210&gt;1055

&lt;211&gt;978

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1055

Val Thr Glu Ser Met Lys Ala Gly Asp Thr Tyr Arg Asn Phe Ile Ile  
 1 5 10 15  
 Lys Ser Cys Lys Asp Leu Pro Glu Ile Glu Ser Lys Leu Leu Glu Ala  
 20 25 30  
 Glu His Lys Pro Thr Gly Ala Ser Ile Met Met Ile Val Asn Asn Asp  
 35 40 45  
 Glu Glu Asn Val Phe Asn Ile Cys Phe Arg Thr Cys Pro Gln Thr Ser  
 50 55 60  
 Asn Gly Val Ala His Val Leu Glu His Met Val Leu Cys Gly Ser Glu  
 65 70 75 80  
 Asn Tyr Pro Val Arg Asp Pro Phe Phe Ser Met Thr Arg Arg Ser Leu  
 85 90 95  
 Asn Thr Phe Ile Asn Ala Phe Thr Gly Pro Asp Phe Thr Cys Tyr Pro  
 100 105 110  
 Ala Ala Ser Gln Ile Pro Glu Asp Phe Tyr Asn Leu Leu Ser Val Tyr  
 115 120 125  
 Ile Asp Ala Val Phe His Pro Leu Leu Thr Lys Gln Ser Phe Leu Gln  
 130 135 140  
 Glu Ala Trp Arg Tyr Glu Phe Asn Ser Glu Asn His Leu Cys Tyr Thr  
 145 150 155 160  
 Gly Val Val Phe Asn Glu Met Lys Gly Ala Met Met Ser Gly Glu Ala  
 165 170 175  
 Arg Leu Ser Glu Ala Leu Asn Ala Ala Ile Phe Pro Ser Val Thr Tyr  
 180 185 190  
 Gly Val Asn Ser Gly Gly Glu Pro Arg Glu Ile Val Thr Leu Ser His  
 195 200 205  
 Glu Asp Val Arg Ala Phe His Gln Ser Gln Tyr Ser Ile Asn Arg Cys  
 210 215 220  
 Leu Phe Tyr Phe Tyr Gly Asn Ile Lys Pro Ser Arg His Leu Asp Phe

225					230					235				240	
Leu	Glu	Glu	Lys	Leu	Leu	Arg	Gln	Ala	Thr	Lys	Leu	Glu	Lys	Gln	Ala
				245					250					255	
Val	Ser	Val	Pro	Leu	Gln	Lys	Arg	Phe	Lys	Glu	Pro	Val	Arg	Asn	Ile
			260					265					270		
Leu	Thr	Tyr	Pro	Val	Asp	His	Gln	Glu	Glu	Asp	Lys	Val	Leu	Phe	Gly
		275					280					285			
Ile	Ser	Trp	Leu	Thr	Cys	Ser	Ile	Leu	Glu	Gln	Gln	Glu	Leu	Leu	Ala
	290				295					300					
Leu	His	Val	Leu	Glu	Ile	Ile	Leu	Met	Gly	Thr	Asp	Ala	Ser	Pro	Leu
305				310					315					320	
Lys	Ser	Arg	Leu	Leu	Lys	Ser	Gly	Phe	Cys	Lys	Gln	Thr	Glu	Met	Ser
			325						330				335		
Ile	Glu	Asn	Asp	Ile	Arg	Glu	Ile	Pro	Met	Thr	Leu	Val	Cys	Lys	Gly
		340					345					350			
Cys	Ser	Pro	Ala	Gly	Ala	Gln	Lys	Leu	Glu	Ala	Leu	Ile	Phe	Ala	Ser
	355					360					365				
Leu	Glu	Glu	Ile	Ile	Arg	Glu	Gly	Ile	Ser	Glu	Asn	Ile	Val	Glu	Gly
370					375					380					
Ala	Val	His	Gln	Leu	Glu	Leu	Ser	Arg	Lys	Glu	Ile	Thr	Gly	Tyr	Ser
385				390					395					400	
Leu	Pro	Tyr	Gly	Leu	Ser	Leu	Phe	Phe	Arg	Ser	Gly	Leu	Leu	Lys	Gln
			405					410					415		
His	Gly	Gly	Ser	Ala	Glu	Asp	Gly	Leu	Arg	Ile	His	Asn	Leu	Phe	Ser
		420					425					430			
Glu	Leu	Arg	Asn	Ser	Leu	Lys	Asn	Ser	Asp	Tyr	Leu	Ala	Lys	Leu	Ile
	435					440					445				
Arg	Lys	Tyr	Phe	Leu	Asp	Asn	Pro	His	Phe	Ala	Arg	Val	Ile	Leu	Leu
450					455				460						
Pro	Asp	Thr	Glu	Leu	Val	Ala	Lys	Asp	Asn	Lys	Asp	Glu	Gln	Gln	Leu
465				470					475					480	
Leu	Leu	Ser	Val	Ser	Glu	Lys	Leu	Thr	Asp	Glu	Asn	Lys	Glu	Lys	Ile
			485					490					495		
Gln	Gln	Asn	Val	Arg	Glu	Leu	Thr	Glu	Ser	Gln	Glu	Gln	Lys	Glu	Asp
		500					505					510			
Leu	Asn	Gly	Ile	Leu	Pro	Asn	Leu	Ala	Leu	Asp	Lys	Val	Pro	Thr	Ser
	515					520					525				
Gly	Lys	Glu	Phe	Pro	Leu	Ile	Lys	Glu	Gly	Leu	Ser	Gln	Gly	Glu	Val
530					535				540						
Leu	His	His	Glu	Cys	Phe	Thr	Asn	Asp	Ile	Val	Phe	Ile	Asp	Val	Val
545				550					555					560	
Leu	Asp	Ile	Pro	Pro	Leu	Ser	Gly	Glu	Glu	Leu	Pro	Trp	Leu	Arg	Leu
			565					570					575		
Leu	Val	Phe	Leu	Met	Leu	Gln	Leu	Gly	Cys	Gly	Gly	Arg	Ser	Tyr	Lys
		580					585					590			
Glu	His	Leu	Glu	Phe	Leu	Leu	Glu	His	Thr	Gly	Gly	Val	Asp	Val	Ser
	595					600					605				
Tyr	Asp	Phe	Ser	Pro	His	Ala	Asn	Lys	Asn	Ser	Phe	Leu	Ser	Pro	Ser
610					615						620				
Val	Ser	Ile	Arg	Gly	Lys	Ala	Leu	Ser	Ser	Lys	Ser	Glu	Lys	Leu	Cys
625				630					635					640	
Gly	Ile	Val	Ser	Asp	Met	Leu	Thr	Ser	Val	Asp	Phe	Thr	Asp	Ile	Pro
			645					650					655		
Arg	Ile	Arg	Glu	Leu	Leu	Met	Gln	His	Asn	Glu	Ala	Leu	Thr	Asn	Ser
		660					665					670			
Val	Arg	Asn	Ser	Pro	Met	Ser	Tyr	Ala	Val	Ser	Met	Ala	Cys	Ser	Gly
	675					680					685				
Asn	Ser	Ile	Thr	Gly	Ala	Met	Ser	Tyr	Leu	Thr	Thr	Gly	Leu	Pro	Tyr
690					695						700				
Val	Lys	Lys	Ile	Arg	Glu	Leu	Thr	Lys	Asn	Phe	Asp	Gln	Asn	Ile	Asp
705				710					715					720	
Glu	Ala	Val	Val	Ile	Leu	Gln	Arg	Leu	Tyr	Thr	Lys	Cys	Phe	Ser	Gly
			725					730					735		
Lys	Arg	Gln	Ile	Val	Ile	Ser	Gly	Ser	Ala	His	Asn	Tyr	Gln	Gln	Leu



BNSDOCID: &lt;WO\_ 9927105A2 | &gt;

Ser Tyr Phe Ser Val Glu Glu Ile Asp Lys Gly Asp Leu Val Asp Lys  
 225 230 235 240  
 Ile Lys Glu His Ile Lys Thr Leu Lys Ser Lys Ser Tyr Trp Glu Lys  
 245 250 255  
 Phe His Gln Ser Pro Glu Tyr Val Ile Leu Phe Leu Pro Gly Glu Ser  
 260 265 270  
 Leu Phe Asn Asp Ala Ile Arg Leu Ala Pro Glu Leu Met Glu Ile Gly  
 275 280 285  
 Ala Ser Ser Asn Val Ile Leu Ser Ser Pro Leu Thr Leu Leu Ala Leu  
 290 295 300  
 Leu Lys Thr Ile Ala Tyr Met Trp Lys Gln Glu Asn Leu Gln Lys Gln  
 305 310 315 320  
 Ile Gln Glu Val Ser Leu Leu Gly Lys Glu Leu His Arg Arg Leu Gln  
 325 330 335  
 Val Val Phe Thr His Phe Gln Lys Ile Gly Lys Asn Leu Asn Gln Thr  
 340 345 350  
 Val Gln Ser Tyr Asn Asp Met Thr Ser Ser Phe Gln Tyr Arg Val Leu  
 355 360 365  
 Pro Thr Leu Arg Lys Phe Glu Gly Leu Glu Thr Ser Ser Ser His Gln  
 370 375 380  
 Ile Glu Glu Pro Thr Pro Ile Glu Ser Leu Ala Thr Ser Phe Pro His  
 385 390 395 400  
 Thr Cys Asp Ile Asp Thr Asn Leu Ala Val Ile Glu Ser Leu Glu Lys  
 405 410 415  
 Gln Asp

&lt;210&gt;1057

&lt;211&gt;265

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1057

Met Ala Gly Leu Asp Leu Glu Ala Arg Gly Lys Arg Arg Val Val Thr  
 1 5 10 15  
 Pro Asn Ala Ile Thr Ala Phe Gly Leu Cys Cys Gly Leu Phe Ile Ile  
 20 25 30  
 Phe Lys Ser Val Leu Arg Thr Ser Ser Ser Val Glu Leu Phe His Arg  
 35 40 45  
 Leu Gln Gly Leu Ser Leu Leu Ile Ser Ala Met Ile Ala Asp Phe  
 50 55 60  
 Ser Asp Gly Ala Ile Ala Arg Ile Met Lys Ala Glu Ser Ala Phe Gly  
 65 70 75 80  
 Ala Gln Phe Asp Ser Leu Ser Asp Ala Val Thr Phe Gly Ile Ala Pro  
 85 90 95  
 Pro Leu Ile Ala Ile Lys Ser Leu Asp Gly Ile Tyr Val Gly Asn Phe  
 100 105 110  
 Phe Ser Ser Leu Leu Leu Ile Thr Ser Ile Ile Tyr Ser Leu Cys Gly  
 115 120 125  
 Val Leu Arg Leu Val Arg Tyr Asn Leu Phe Ser Gln Lys Thr Val Asp  
 130 135 140  
 Val Ser Lys Pro Tyr Cys Phe Ile Gly Leu Pro Ile Pro Ala Ala Ala  
 145 150 155 160  
 Ala Ser Ile Val Ser Leu Ala Leu Phe Leu Ala Ser Asp Phe Phe Pro  
 165 170 175  
 Asp Leu Pro Ala Gln Leu Arg Val Gly Leu Leu Ser Phe Ala Leu Leu  
 180 185 190  
 Phe Ile Gly Gly Leu Met Ile Ser Pro Trp Lys Phe Pro Gly Val Lys  
 195 200 205  
 His Phe Arg Phe Asn Val Ser Ser Phe Leu Leu Val Val Thr Ile Gly  
 210 215 220  
 Leu Ala Ala Cys Leu Phe Phe Ser Gly Leu Val Asp His Phe Val Glu  
 225 230 235 240  
 Val Phe Phe Leu Val Ser Trp Leu Tyr Thr Leu Val Gly Phe Pro Ile  
 245 250 255  
 Phe Ser Ile Ile Tyr Arg Lys Lys Ser

260 265

<210>1058  
 <211>1047  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1058

Gly Lys Val Met Val Glu Val Glu Glu Lys His Tyr Thr Ile Val Lys  
 1 5 10 15  
 Arg Asn Gly Met Phe Val Pro Phe Asn Gln Asp Arg Ile Phe Gln Ala  
 20 25 30  
 Leu Glu Ala Ala Phe Arg Asp Thr Arg Ser Leu Glu Thr Ser Ser Pro  
 35 40 45  
 Leu Pro Lys Asp Leu Glu Glu Ser Ile Ala Gln Ile Thr His Lys Val  
 50 55 60  
 Val Lys Glu Val Leu Ala Lys Ile Ser Glu Gly Gln Val Val Thr Val  
 65 70 75 80  
 Glu Arg Ile Gln Asp Leu Val Glu Ser Gln Leu Tyr Ile Ser Gly Leu  
 85 90 95  
 Gln Asp Val Ala Arg Asp Tyr Ile Val Tyr Arg Asp Gln Arg Lys Ala  
 100 105 110  
 Glu Arg Gly Asn Ser Ser Ser Ile Ala Ile Ile Arg Arg Asp Gly  
 115 120 125  
 Gly Ser Ala Lys Phe Asn Pro Met Lys Ile Ser Ala Ala Leu Glu Lys  
 130 135 140  
 Ala Phe Arg Ala Thr Leu Gln Ile Asn Gly Met Thr Pro Pro Ala Thr  
 145 150 155 160  
 Leu Ser Glu Ile Asn Asp Leu Thr Leu Arg Ile Val Glu Asp Val Leu  
 165 170 175  
 Ser Leu His Gly Glu Glu Ala Ile Asn Leu Glu Glu Ile Gln Asp Ile  
 180 185 190  
 Val Glu Lys Gln Leu Met Val Ala Gly Tyr Tyr Asp Val Ala Lys Asn  
 195 200 205  
 Tyr Ile Leu Tyr Arg Glu Ala Arg Ala Arg Ala Asn Lys Asp  
 210 215 220  
 Gln Asp Gly Gln Glu Glu Phe Val Pro Gln Glu Glu Thr Tyr Val Val  
 225 230 235 240  
 Gln Lys Glu Asp Gly Thr Thr Tyr Leu Leu Arg Lys Thr Asp Leu Glu  
 245 250 255  
 Lys Arg Phe Ser Trp Ala Cys Lys Arg Phe Pro Lys Thr Thr Asp Ser  
 260 265 270  
 Gln Leu Leu Ala Asp Met Ala Phe Met Asn Leu Tyr Ser Gly Ile Lys  
 275 280 285  
 Glu Asp Glu Val Thr Thr Ala Cys Ile Met Ala Ala Arg Ala Asn Ile  
 290 295 300  
 Glu Arg Glu Pro Asp Tyr Ala Phe Ile Ala Ala Glu Leu Leu Thr Ser  
 305 310 315 320  
 Ser Leu Tyr Glu Glu Thr Leu Gly Cys Ser Ser Gln Asp Pro Asn Leu  
 325 330 335  
 Ser Glu Ile His Lys Lys His Phe Lys Glu Tyr Ile Leu Asn Gly Glu  
 340 345 350  
 Glu Tyr Arg Leu Asn Pro Gln Leu Lys Asp Tyr Asp Leu Asp Ala Leu  
 355 360 365  
 Ser Glu Val Leu Asp Leu Ser Arg Asp Gln Gln Phe Ser Tyr Met Gly  
 370 375 380  
 Val Gln Asn Leu Tyr Asp Arg Tyr Phe Asn Leu His Glu Gly Arg Arg  
 385 390 395 400  
 Leu Glu Thr Ala Gln Ile Phe Trp Met Arg Val Ser Met Gly Leu Ala  
 405 410 415  
 Leu Asn Glu Gly Glu Gln Lys Asn Phe Trp Ala Ile Thr Phe Tyr Asn  
 420 425 430  
 Leu Leu Ser Thr Phe Arg Tyr Thr Pro Ala Thr Pro Thr Leu Phe Asn  
 435 440 445  
 Ser Gly Met Arg His Ser Gln Leu Ser Ser Cys Tyr Leu Ser Thr Val  
 450 455 460

Lys	Asp	Asp	Leu	Ser	His	Ile	Tyr	Lys	Val	Ile	Ser	Asp	Asn	Ala	Leu
465					470					475					480
Leu	Ser	Lys	Trp	Ala	Gly	Gly	Ile	Gly	Asn	Asp	Trp	Thr	Asp	Val	Arg
				485					490						495
Ala	Thr	Gly	Ala	Val	Ile	Lys	Gly	Thr	Asn	Gly	Lys	Ser	Gln	Gly	Val
			500					505					510		
Ile	Pro	Phe	Ile	Lys	Val	Ala	Asn	Asp	Thr	Ala	Ile	Ala	Val	Asn	Gln
		515					520					525			
Gly	Gly	Lys	Arg	Lys	Gly	Ala	Met	Cys	Val	Tyr	Leu	Glu	Asn	Trp	His
		530				535					540				
Leu	Asp	Tyr	Glu	Asp	Phe	Leu	Glu	Leu	Arg	Lys	Asn	Thr	Gly	Asp	Glu
545					550					555					560
Arg	Arg	Arg	Thr	His	Asp	Ile	Asn	Thr	Ala	Ser	Trp	Ile	Pro	Asp	Leu
				565					570						575
Phe	Phe	Lys	Arg	Leu	Glu	Lys	Lys	Gly	Met	Trp	Thr	Leu	Phe	Ser	Pro
			580					585					590		
Asp	Asp	Val	Pro	Gly	Leu	His	Glu	Ala	Tyr	Gly	Leu	Glu	Phe	Glu	Lys
		595					600					605			
Leu	Tyr	Glu	Glu	Tyr	Glu	Arg	Lys	Val	Glu	Ser	Gly	Glu	Ile	Arg	Leu
	610					615					620				
Tyr	Lys	Lys	Val	Glu	Ala	Glu	Val	Leu	Trp	Arg	Lys	Met	Leu	Ser	Met
625					630					635					640
Leu	Tyr	Glu	Thr	Gly	His	Pro	Trp	Ile	Thr	Phe	Lys	Asp	Pro	Ser	Asn
				645					650						655
Ile	Arg	Ser	Asn	Gln	Asp	His	Val	Gly	Val	Val	Arg	Cys	Ser	Asn	Leu
			660					665					670		
Cys	Thr	Glu	Ile	Leu	Leu	Asn	Cys	Ser	Glu	Ser	Glu	Thr	Ala	Val	Cys
		675					680					685			
Asn	Leu	Gly	Ser	Ile	Asn	Leu	Val	Glu	His	Ile	Arg	Asn	Asp	Lys	Leu
	690					695					700				
Asp	Glu	Glu	Lys	Leu	Lys	Glu	Thr	Ile	Ser	Ile	Ala	Ile	Arg	Ile	Leu
705					710					715					720
Asp	Asn	Val	Ile	Asp	Leu	Asn	Phe	Tyr	Pro	Thr	Pro	Glu	Ala	Lys	Gln
				725					730						735
Ala	Asn	Leu	Thr	His	Arg	Ala	Val	Gly	Leu	Gly	Val	Met	Gly	Phe	Gln
			740					745					750		
Asp	Val	Leu	Tyr	Glu	Leu	Asn	Ile	Ser	Tyr	Ala	Ser	Gln	Glu	Ala	Val
		755					760					765			
Glu	Phe	Ser	Asp	Glu	Cys	Ser	Glu	Ile	Ile	Ala	Tyr	Tyr	Ala	Ile	Leu
	770					775					780				
Ala	Ser	Ser	Leu	Leu	Ala	Lys	Glu	Arg	Gly	Thr	Tyr	Ala	Ser	Tyr	Ser
785					790					795					800
Gly	Ser	Lys	Trp	Asp	Arg	Gly	Tyr	Leu	Pro	Leu	Asp	Thr	Ile	Glu	Leu
				805					810					815	
Leu	Lys	Glu	Thr	Arg	Gly	Glu	His	Asn	Val	Leu	Val	Asp	Thr	Ser	Ser
			820					825					830		
Lys	Lys	Asp	Trp	Thr	Pro	Val	Arg	Asp	Thr	Ile	Gln	Lys	Tyr	Gly	Met
		835					840					845			
Arg	Asn	Ser	Gln	Val	Met	Ala	Ile	Ala	Pro	Thr	Ala	Thr	Ile	Ser	Asn
	850					855					860				
Ile	Ile	Gly	Val	Thr	Gln	Ser	Ile	Glu	Pro	Met	Tyr	Lys	His	Leu	Phe
865					870					875					880
Val	Lys	Ser	Asn	Leu	Ser	Gly	Glu	Phe	Thr	Ile	Pro	Asn	Thr	Tyr	Leu
			885					890						895	
Ile	Lys	Lys	Leu	Lys	Glu	Leu	Gly	Leu	Trp	Asp	Ala	Glu	Met	Leu	Asp
			900					905					910		
Asp	Leu	Lys	Tyr	Phe	Asp	Gly	Ser	Leu	Leu	Glu	Ile	Glu	Arg	Ile	Pro
		915					920					925			
Asn	His	Leu	Lys	Lys	Leu	Phe	Leu	Thr	Ala	Phe	Glu	Ile	Glu	Pro	Glu
	930					935					940				
Trp	Ile	Ile	Glu	Cys	Thr	Ser	Arg	Arg	Gln	Lys	Trp	Ile	Asp	Met	Gly
945					950					955					960
Val	Ser	Leu	Asn	Leu	Tyr	Leu	Ala	Glu	Pro	Asp	Gly	Lys	Lys	Leu	Ser
				965					970						975

Asn Met Tyr Leu Thr Ala Trp Lys Lys Gly Leu Lys Thr Thr Tyr Tyr  
 980 985 990  
 Leu Arg Ser Gln Ala Ala Thr Ser Val Glu Lys Ser Phe Ile Asp Ile  
 995 1000 1005  
 Asn Lys Arg Gly Ile Gln Pro Arg Trp Met Lys Asn Lys Ser Ala Ser  
 1010 1015 1020  
 Thr Ser Ile Val Val Glu Arg Lys Thr Thr Pro Val Cys Ser Met Glu  
 1025 1030 1035 1040  
 Glu Gly Cys Glu Ser Cys Gln  
 1045

&lt;210&gt;1059

&lt;211&gt;365

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1059

Leu Phe Asn Gly Arg Arg Leu Arg Ile Leu Ser Ile Thr Glu Lys Arg  
 1 5 10 15  
 Gly Ala Lys Met Glu Ala Asp Ile Leu Asp Gly Lys Leu Lys Arg Val  
 20 25 30  
 Glu Val Ser Lys Lys Gly Leu Val Asn Cys Asn Gln Val Asp Val Asn  
 35 40 45  
 Gln Leu Val Pro Ile Lys Tyr Lys Trp Ala Trp Glu His Tyr Leu Asn  
 50 55 60  
 Gly Cys Ala Asn Asn Trp Leu Pro Thr Glu Val Pro Met Ala Arg Asp  
 65 70 75 80  
 Ile Glu Leu Trp Lys Ser Asp Glu Leu Ser Glu Asp Glu Arg Arg Val  
 85 90 95  
 Ile Leu Leu Asn Leu Gly Phe Phe Ser Thr Ala Glu Ser Leu Val Gly  
 100 105 110  
 Asn Asn Ile Val Leu Ala Ile Phe Lys His Ile Thr Asn Pro Glu Ala  
 115 120 125  
 Arg Gln Tyr Leu Leu Arg Gln Ala Phe Glu Glu Ala Val His Thr His  
 130 135 140  
 Thr Phe Leu Tyr Ile Cys Glu Ser Leu Gly Leu Asp Glu Gly Glu Val  
 145 150 155 160  
 Phe Asn Ala Tyr Asn Glu Arg Ala Ser Ile Arg Ala Lys Asp Asp Phe  
 165 170 175  
 Gln Met Thr Leu Thr Val Asp Val Leu Asp Pro Asn Phe Ser Val Gln  
 180 185 190  
 Ser Ser Glu Gly Leu Gly Gln Phe Ile Lys Asn Leu Val Gly Tyr Tyr  
 195 200 205  
 Ile Ile Met Glu Gly Ile Phe Phe Tyr Ser Gly Phe Val Met Ile Leu  
 210 215 220  
 Ser Phe His Arg Gln Asn Lys Met Thr Gly Ile Gly Glu Gln Tyr Gln  
 225 230 235 240  
 Tyr Ile Leu Arg Asp Glu Thr Ile His Leu Asn Phe Gly Ile Asp Leu  
 245 250 255  
 Ile Asn Gly Ile Lys Glu Glu Asn Pro Glu Val Trp Thr Thr Glu Leu  
 260 265 270  
 Gln Glu Glu Ile Val Ala Leu Ile Glu Lys Ala Val Glu Leu Glu Ile  
 275 280 285  
 Glu Tyr Ala Lys Asp Cys Leu Pro Arg Gly Ile Leu Gly Leu Arg Ser  
 290 295 300  
 Ser Met Phe Ile Asp Tyr Val Arg His Ile Ala Asp Arg Arg Leu Glu  
 305 310 315 320  
 Arg Ile Gly Leu Lys Pro Ile Tyr His Ser Arg Asn Pro Phe Pro Trp  
 325 330 335  
 Met Ser Glu Thr Met Asp Leu Asn Lys Glu Lys Asn Phe Phe Glu Thr  
 340 345 350  
 Arg Val Thr Glu Tyr Gln Thr Ala Gly Asn Leu Ser Trp  
 355 360 365

&lt;210&gt;1060

&lt;211&gt;228

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1060

Phe Leu Leu Phe Met Lys Pro Gln Asp Leu Ser Pro Pro Phe Leu Trp  
 1 5 10 15  
 Lys Glu Arg Arg Pro Cys Ile Gln Asp Gly Val Leu Tyr Val Pro Arg  
 20 25 30  
 His Tyr Phe Glu His Gln Asn Phe Ser Thr Ser Tyr His Gln Glu Phe  
 35 40 45  
 Phe Gln Asn His Thr Ser Ile Ala Cys Glu Leu Cys Ser Gly Asn Gly  
 50 55 60  
 Asp Trp Val Val Ala Gln Ala Gln Lys Asp Pro Gln Val Leu Trp Ile  
 65 70 75 80  
 Ala Val Glu Gln Arg Phe Asp Arg Val Arg Lys Ile Trp Ser Lys Met  
 85 90 95  
 Ile Asn His Gln Ile Gln Asn Leu Arg Ile Val Cys Gly Thr Ala Glu  
 100 105 110  
 Thr Phe Phe Gln Tyr Tyr Val Pro Asp Gln Phe Leu Gln Arg Leu Val  
 115 120 125  
 Val Asn Phe Pro Asp Pro Trp Pro Lys Met Arg His Arg Lys His Arg  
 130 135 140  
 Leu Leu Gln Pro Ser Phe Val Gln Glu Ile Ser Arg Ser Leu Gln Asp  
 145 150 155 160  
 Ser Ala Val Phe Ala Leu Ala Thr Asp Asp Lys Thr Tyr Leu Leu Glu  
 165 170 175  
 Ser Ile Glu Ala Leu Gln Thr His Leu Ala Pro Arg Met Glu Thr Pro  
 180 185 190  
 Tyr Tyr Ile Lys Met Thr Asp Thr Tyr Gly Asn Ser Trp Phe Glu Asn  
 195 200 205  
 Leu Trp Arg Thr Lys Gly Gln Glu Ile Phe Tyr Thr Glu Phe Ile Lys  
 210 215 220  
 Lys Ala Gly Ile  
 225

&lt;210&gt;1061

&lt;211&gt;175

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1061

Met Phe Ala Tyr Arg Thr Leu Leu Thr His Asn Val Val Gln Val Ser  
 1 5 10 15  
 His Glu Ile Phe Lys Thr Thr Val Val Pro Gly Asp Thr Val Ile Asp  
 20 25 30  
 Ala Thr Cys Gly Asn Gly Asn Asp Ser Leu Phe Leu Ala Arg Leu Leu  
 35 40 45  
 Gln Gly Glu Gly Arg Leu Val Val Tyr Asp Ile Gln Lys Glu Ala Leu  
 50 55 60  
 Ser Asn Ala Leu Leu Leu Phe Glu Thr His Leu Ser Glu Gln Glu Arg  
 65 70 75 80  
 Ser Val Ile Glu Met Lys Glu Gln Ser His Glu His Ile Leu Glu Lys  
 85 90 95  
 Asp Val Lys Leu Ile His Tyr Asn Leu Gly Tyr Leu Pro Lys Gly Asn  
 100 105 110  
 Lys Glu Ile Thr Thr Leu Ala Arg Thr Thr Glu Ile Ser Leu Glu Tyr  
 115 120 125  
 Ala Leu Asn Ile Val Arg Pro Asp Gly Leu Ile Thr Val Val Cys Tyr  
 130 135 140  
 Pro Gly His Pro Glu Gly Glu Lys Glu Thr His Ser Val Glu Ser Leu  
 145 150 155 160  
 Ala Gln Arg Leu His Pro Lys Glu Trp Cys Val Ser His Phe Met  
 165 170 175

&lt;210&gt;1062

&lt;211&gt;97

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1062

Arg Ser Pro Ile Arg Ser Leu Leu Leu Ala Val Phe Ser Val Ile Leu  
 1 5 10 15  
 Lys Glu Leu Leu Leu Ala Ser Leu Leu Thr Gln Pro Gly Leu Lys Gly  
 20 25 30  
 Leu Ala Ile Gly Gly Ala Gln Ile Ser Pro Leu His Ala Asn Phe Ile  
 35 40 45  
 Ile Asn Thr Gly Lys Ala Thr Ser Asp Glu Val Lys Gln Leu Ile Ala  
 50 55 60  
 Ile Ile Gln Ser Thr Leu Lys Thr Gln Gly Ile Asp Leu Glu His Glu  
 65 70 75 80  
 Ile Arg Ile Ile Pro Tyr Gln Pro Lys Ile His Ser Pro Val Ser Glu  
 85 90 95  
 Lys

&lt;210&gt;1063

&lt;211&gt;263

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1063

Met Lys Glu Ala Ala Pro Met His Phe Pro Phe Pro Val Arg Arg Ser  
 1 5 10 15  
 Val Trp Leu Asn Arg Tyr Ser Thr Phe Arg Ile Gly Gly Pro Ala Asn  
 20 25 30  
 Tyr Phe Lys Ala Ile His Thr Ile Glu Glu Ala Arg Glu Val Ile Arg  
 35 40 45  
 Phe Leu His Ser Ile Asn Tyr Pro Phe Leu Ile Ile Gly Lys Gly Ser  
 50 55 60  
 Asn Cys Leu Phe Asp Asp Arg Gly Phe Asp Gly Phe Val Leu Tyr Asn  
 65 70 75 80  
 Ala Ile Tyr Gly Lys Gln Phe Leu Glu Asp Ala Arg Ile Lys Ala Tyr  
 85 90 95  
 Ser Gly Leu Ser Phe Ala Ala Leu Gly Lys Ala Thr Ala Tyr Asn Gly  
 100 105 110  
 Tyr Ser Gly Leu Glu Phe Ala Ala Gly Ile Pro Gly Ser Val Gly Gly  
 115 120 125  
 Ala Ile Phe Met Asn Ala Gly Thr Asn Glu Ser Asp Ile Ser Ser Val  
 130 135 140  
 Val Arg Asn Val Glu Thr Ile Asn Ser Glu Gly Glu Leu Cys Ser Tyr  
 145 150 155 160  
 Ser Val Glu Glu Glu Leu Ser Tyr Arg Ser Ser Arg Phe His Arg  
 165 170 175  
 Gln Gln Glu Phe Ile Leu Ser Ala Thr Phe Gln Leu Ser Lys Lys Gln  
 180 185 190  
 Val Ser Ala Asp His Ser Lys Ser Ile Leu Gln His Arg Leu Met Thr  
 195 200 205  
 Gln Pro Tyr Thr Gln Pro Ser Ala Gly Cys Ile Phe Arg Asn Pro Glu  
 210 215 220  
 Gly Thr Ser Ala Gly Lys Leu Ile Asp Ala Ala Trp Val Glu Gly Ile  
 225 230 235 240  
 Ser Asn Arg Arg Gly Thr Asn Phe Ser Val Ala Cys Lys Leu His Tyr  
 245 250 255  
 Gln Tyr Trp Gln Gly His Phe  
 260

&lt;210&gt;1064

&lt;211&gt;179

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1064

Leu Arg Thr Ser Leu Ala Val Lys Cys Val Leu Leu Thr Ile Phe Trp  
 1 5 10 15  
 Leu Leu Val Met Ala Thr Leu Ser Pro Glu Lys Phe Ser Gly Ser Pro  
 20 25 30  
 Ile Ser Ile Ser Lys Glu Phe Pro Gln Gln Lys Met Arg Glu Ile Ile  
 35 40 45

Leu Gln Met Leu Ala Leu Asp Met Ala Pro Ser Ala Glu Asp Ser  
 50 55 60  
 Leu Val Pro Leu Leu Met Ser Gln Thr Ala Val Ser Gln Lys His Val  
 65 70 75 80  
 Leu Val Ala Leu Asn Gln Thr Lys Ser Ile Leu Glu Lys Ser Gln Glu  
 85 90 95  
 Leu Asp Leu Ile Ile Gly Asn Ala Leu Lys Asn Lys Ser Phe Asp Ser  
 100 105 110  
 Leu Asp Leu Val Glu Lys Asn Val Leu Arg Leu Thr Leu Phe Glu His  
 115 120 125  
 Phe Tyr Ser Pro Pro Ile Asn Lys Ala Ile Leu Ile Ala Glu Ala Ile  
 130 135 140  
 Arg Leu Val Lys Lys Phe Ser Tyr Ser Glu Ala Cys Pro Phe Ile Gln  
 145 150 155 160  
 Ala Ile Leu Asn Asp Ile Phe Thr Asp Ser Ser Leu Asn Glu Asn Ser  
 165 170 175  
 Leu Ser Ile

&lt;210&gt;1065

&lt;211&gt;187

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1065

Ser Val Ala Leu Asn Phe Lys Ile Asn Arg Gln Ile Arg Ala Pro Lys  
 1 5 10 15  
 Val Arg Leu Ile Gly Ser Ala Gly Glu Gln Leu Gly Ile Leu Ala Ile  
 20 25 30  
 Lys Asp Ala Leu Asp Leu Ala Arg Glu Ala Gly Leu Asp Leu Val Glu  
 35 40 45  
 Val Ala Ser Asn Ser Glu Pro Pro Val Cys Lys Ile Met Asp Tyr Gly  
 50 55 60  
 Lys Tyr Arg Tyr Gly Leu Thr Lys Lys Glu Lys Asp Ser Lys Lys Ala  
 65 70 75 80  
 Gln His Gln Val Arg Ile Lys Glu Val Lys Leu Lys Pro Asn Ile Asp  
 85 90 95  
 Glu Asn Asp Phe Ser Thr Lys Leu Lys Gln Ala Arg Thr Phe Val Glu  
 100 105 110  
 Lys Gly Asn Lys Val Lys Ile Thr Cys Met Phe Arg Gly Arg Glu Leu  
 115 120 125  
 Ala Tyr Pro Glu His Gly Phe Lys Val Val Gln Lys Met Ser Gln Gly  
 130 135 140  
 Leu Glu Asp Ile Gly Phe Val Glu Ala Glu Pro Lys Leu Ala Gly Arg  
 145 150 155 160  
 Ser Leu Ile Cys Val Val Ala Pro Gly Thr Val Lys Thr Lys Lys Lys  
 165 170 175  
 Gln Glu Lys Ser His Ala Gln Asp Glu Asn Gln  
 180 185

&lt;210&gt;1066

&lt;211&gt;121

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1066

Met Val Arg Ala Thr Gly Ser Val Ala Ser Arg Arg Arg Arg Lys Arg  
 1 5 10 15  
 Ile Leu Lys Gln Ala Lys Gly Phe Trp Gly Asp Arg Lys Gly His Ile  
 20 25 30  
 Arg Gln Ser Arg Ser Ser Val Met Arg Ala Met Ala Phe Asn Tyr Met  
 35 40 45  
 His Arg Lys Asp Arg Lys Gly Asp Phe Arg Ser Leu Trp Ile Ala Arg  
 50 55 60  
 Leu Asn Val Ala Ser Arg Ile His Ser Leu Ser Tyr Ser Arg Leu Ile  
 65 70 75 80  
 Asn Gly Leu Lys Cys Ala Asn Ile Ser Leu Asn Arg Lys Met Leu Ser  
 85 90 95



Glu Ile Ala Ile His Asn Pro Glu Gly Phe Ala Glu Ile Ala Asn Gln  
 100 105 110  
 Ala Lys Lys Ala Leu Glu Ala Thr Val  
 115 120

&lt;210&gt;1067

&lt;211&gt;339

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1067

Met Glu Met Lys Glu Glu Ile Glu Ala Val Lys Gln Gln Phe His Ser  
 1 5 10 15  
 Glu Leu Asp Gln Val Asn Ser Ser Gln Ala Leu Ala Asp Leu Lys Val  
 20 25 30  
 Arg Tyr Leu Gly Lys Lys Gly Ile Phe Arg Ser Phe Ser Glu Lys Leu  
 35 40 45  
 Lys Gln Cys Thr Asp Lys Ala Lys Leu Gly Ser Leu Ile Asn Asp Phe  
 50 55 60  
 Lys Thr Tyr Val Glu Asp Leu Leu Gln Glu Lys Ser Leu Val Leu Leu  
 65 70 75 80  
 Ala Ser Glu Gln Ala Glu Ala Phe Ser Lys Glu Lys Ile Asp Ser Ser  
 85 90 95  
 Leu Pro Gly Asp Ser Gln Pro Ser Gly Gly Arg His Ile Leu Lys Ser  
 100 105 110  
 Ile Leu Asp Asp Val Val Asp Ile Phe Val His Leu Gly Phe Cys Val  
 115 120 125  
 Arg Glu Ala Pro Asn Ile Glu Ser Glu Ala Asn Asn Phe Thr Leu Leu  
 130 135 140  
 Asn Phe Thr Glu Asp His Pro Ala Arg Gln Met His Asp Thr Phe Tyr  
 145 150 155 160  
 Leu Asn Ala Thr Thr Val Leu Arg Thr His Thr Ser Asn Val Gln Ala  
 165 170 175  
 Arg Glu Leu Lys Lys Gln Gln Pro Pro Ile Lys Val Val Ala Pro Gly  
 180 185 190  
 Leu Cys Phe Arg Asn Glu Asp Ile Ser Ala Arg Ser His Val Leu Phe  
 195 200 205  
 His Gln Val Glu Ala Phe Tyr Val Asp His Asn Val Thr Phe Ser Asp  
 210 215 220  
 Leu Thr Ala Ile Leu Ser Ala Phe Tyr His Ser Phe Phe Gln Arg Lys  
 225 230 235 240  
 Thr Glu Leu Arg Phe Arg His Ser Tyr Phe Pro Phe Val Glu Pro Gly  
 245 250 255  
 Ile Glu Val Asp Val Ser Cys Glu Cys Cys Gly Lys Gly Cys Ala Leu  
 260 265 270  
 Cys Lys His Thr Gly Trp Leu Glu Val Ala Gly Ala Gly Met Ile His  
 275 280 285  
 Pro Gln Val Leu Arg Asn Gly Asn Val Asp Pro Glu Ile Tyr Ser Gly  
 290 295 300  
 Tyr Ala Val Gly Met Gly Ile Glu Arg Leu Ala Met Leu Lys Tyr Gly  
 305 310 315 320  
 Val Ser Asp Ile Arg Leu Phe Ser Glu Asn Asp Leu Arg Phe Leu Gln  
 325 330 335  
 Gln Phe Ser

&lt;210&gt;1068

&lt;211&gt;690

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1068

Leu Phe Trp Phe His Arg Gly Gly Arg Met Lys Arg Ser Arg Arg Asn  
 1 5 10 15  
 Phe Glu Gln Ala Leu Glu Asn Leu Glu Lys Leu Lys Glu Ile Ser Leu  
 20 25 30  
 Ala Thr Ser Asn Asp Ser Tyr Leu Asn Asn Pro Ala Arg Phe Asn Gln  
 35 40 45

Arg	Lys	Gln	Thr	Gly	Ser	Ser	Val	Met	Glu	Met	Lys	Glu	Ala	Leu	Lys
50						55					60				
Asn	Val	Glu	Asn	Tyr	Leu	Leu	Glu	Ile	Ser	Cys	Val	Ser	Lys	Ser	His
65					70					75					80
Ala	Asp	Lys	Ala	Leu	Lys	Glu	Ser	Asp	Phe	Leu	Ile	Ala	Gly	Val	Gln
				85					90					95	
Asn	Val	Phe	Ser	Phe	Leu	Glu	Asn	Gln	Glu	Asp	Leu	Tyr	Lys	Ser	Leu
			100					105					110		
Leu	Asp	Glu	Tyr	Ser	Glu	Val	Thr	Lys	Ala	Tyr	Asp	Glu	Val	Lys	Lys
		115					120					125			
Asn	Leu	Lys	Glu	Val	Pro	Thr	Tyr	Asp	Leu	Ser	Thr	Asp	Glu	Glu	Thr
		130				135					140				
Glu	Glu	His	Lys	Glu	Pro	Glu	Cys	Phe	Leu	Asn	Asn	Leu	Val	Glu	Val
145					150					155					160
Lys	Arg	Asp	Arg	Ser	Tyr	Glu	Leu	Phe	Tyr	Met	Leu	Asp	Glu	Gln	Asp
				165					170					175	
Lys	Arg	Phe	Tyr	Asn	Asp	Ala	Leu	Val	Gln	Ile	Ile	Tyr	Lys	Gln	Asn
			180					185					190		
Lys	Leu	His	Glu	Thr	Val	Asn	Glu	Gly	Asp	Pro	Leu	Thr	Lys	Thr	Leu
		195				200						205			
Leu	Trp	Asn	Ser	Glu	Glu	Val	Lys	Asn	Ile	Ala	Ser	Ser	Leu	Val	Ile
	210					215					220				
Val	Asn	Asp	Met	Pro	Leu	Arg	Leu	Phe	Tyr	Gln	Arg	Ala	Leu	Ser	His
225					230					235					240
Leu	Asp	Ile	Glu	Ala	Val	Val	Lys	Val	His	Asn	Ala	Val	Met	Ala	Leu
				245					250					255	
Phe	Phe	Ser	Arg	Tyr	Glu	Ala	Thr	Met	Val	Phe	Lys	Ser	Pro	Lys	Lys
			260					265					270		
His	Asn	Ile	Trp	Tyr	Phe	Asn	Asp	Phe	Leu	Leu	Phe	Leu	Arg	Glu	Ala
		275					280					285			
Trp	Lys	Asp	Leu	Asn	Asn	Asn	Val	Ile	Asp	Ser	Gln	Glu	Arg	Lys	Gln
	290				295						300				
Thr	Lys	Leu	Leu	Ala	Ser	Ala	Leu	Ser	Leu	Gly	Ile	Phe	Glu	Ser	Lys
305					310					315					320
Leu	Val	Phe	Glu	Glu	Ala	Ser	Arg	Tyr	Leu	Tyr	Phe	Asn	Ile	Gln	Thr
			325						330					335	
Lys	Leu	Glu	Asn	Ala	Asn	Gly	Lys	Lys	Pro	Leu	Ser	Pro	Gly	Gln	Tyr
			340					345					350		
Leu	Thr	Asp	Ala	Tyr	Glu	Glu	Leu	His	Arg	Leu	Ile	Ser	Lys	Tyr	Pro
		355					360					365			
Asn	Gly	Pro	Leu	Phe	Lys	Ala	Met	Asp	Arg	Val	Leu	Glu	His	Glu	Ser
	370					375					380				
Arg	Pro	Tyr	Asp	Pro	Met	Ile	Leu	Gly	Ile	Leu	Pro	Ser	Leu	Glu	Gly
385					390					395					400
Thr	Leu	Lys	Leu	His	Gly	Lys	Ser	Ile	Asp	Ile	Ile	Arg	Ser	Pro	Ser
			405						410					415	
Pro	Val	Thr	Gln	Ser	Ser	Ile	Leu	Tyr	Ala	Asn	Cys	Asn	Glu	Glu	Phe
			420					425					430		
Leu	Gly	Phe	Leu	Asn	Ala	Lys	Ala	His	Arg	Ser	Glu	Val	Thr	Leu	Val
		435					440					445			
Leu	Asn	Ile	Gln	Asn	Arg	Ile	Ser	Arg	Lys	Glu	Arg	Ala	Arg	Ser	Arg
	450					455					460				
Val	Ile	Glu	Glu	Ala	Leu	Glu	Gln	Glu	Glu	His	Ala	Pro	Tyr	Val	His
465					470					475					480
Ala	Phe	Ser	Phe	Pro	Glu	Pro	Glu	Glu	Leu	Leu	Gln	Asn	Leu	Glu	Ser
				485					490					495	
Ile	His	Gly	Asp	Ile	Glu	Thr	Phe	Ala	Asp	Phe	Phe	Ser	Ile	Leu	Gln
			500					505					510		
Glu	Glu	Phe	His	Lys	Pro	Leu	Leu	Ala	Ser	Ser	Phe	Phe	Leu	Thr	Lys
		515					520					525			
Glu	Leu	Lys	Glu	Phe	Val	Gly	Ser	Phe	Leu	Lys	Glu	Lys	Leu	Thr	Ala
	530					535					540				
Leu	Lys	Asp	Ile	Phe	Phe	Ala	Lys	Lys	Lys	Ile	Leu	Phe	Arg	Asn	Asp
545					550					555					560

Lys Leu Leu Leu Leu His Leu Leu Ser Tyr Leu Ile Val Phe Lys Leu  
 565 570 575  
 Ile Glu Arg Thr Asn Pro Asn Ser Ile Val Val Val Ser Lys Asp Gly  
 580 585 590  
 Leu Asp Tyr Val Ser Val Phe Ile Ala Gly Phe Ala Phe Phe Ser Arg  
 595 600 605  
 Glu Ala Phe Trp Asp Glu His Ser Leu Lys Leu Leu Leu Thr Asn Val  
 610 615 620  
 Leu Ser Pro Thr Leu Val Ala Arg Asp Arg Leu Val Phe Val Ser His  
 625 630 635 640  
 Ile Glu Leu Leu Ser Lys Phe Val Asn Cys Leu Lys Lys Asn Arg Gln  
 645 650 655  
 Gly Phe Ser Ser Leu Lys Ser Phe Phe Lys Asp Asp Ile Glu Gly Trp  
 660 665 670  
 Glu Phe Thr Gly Tyr Leu His Glu Leu Thr Glu Val Ser His Lys His  
 675 680 685

Asn Leu  
 690

<210>1069

<211>367

<212>PRT

<213>Chlamydia pneumoniae

<400>1069

Arg Met Leu Ile Trp Lys Arg His Leu Leu Thr Arg Phe Trp Phe Ala  
 1 5 10 15  
 Leu Thr Ser Leu Leu Val Leu Ala Leu Ile Phe Tyr Ala Ser Ile His  
 20 25 30  
 His Ser Leu His Thr Leu Lys Gly Ala Ser Thr Ala Ala Ser Gly Ala  
 35 40 45  
 Ser Val Lys Leu Ser Ile Leu Tyr Tyr Leu Ala Gln Ile Ser Leu Lys  
 50 55 60  
 Ala Glu Phe Leu Met Pro Gln Leu Val Ala Val Ala Thr Thr Ser Thr  
 65 70 75 80  
 Leu Phe Ala Met Gln Asn Lys Arg Glu Ile Ile Leu Leu Gln Ala Ser  
 85 90 95  
 Gly Leu Ser Leu Lys Ser Leu Met His Pro Leu Leu Leu Ser Gly Ala  
 100 105 110  
 Val Ile Met Met Val Leu Tyr Ala Asn Phe Gln Trp Leu His Pro Ile  
 115 120 125  
 Cys Glu Lys Ile Ser Ile Thr Lys Glu Asn Met Asp Arg Gly Thr Thr  
 130 135 140  
 Asp Lys Glu Gln Gly Lys Ile Pro Ala Leu Tyr Leu Lys Asp Gln Thr  
 145 150 155 160  
 Val Leu Leu Tyr Ser Ser Ile Glu Pro Lys Thr Leu Thr Leu Asn Asn  
 165 170 175  
 Val Phe Trp Ile Lys Asp Pro Lys Thr Ile Tyr Thr Met Glu Lys Leu  
 180 185 190  
 Ala Phe Thr Thr Leu Ser Leu Pro Ile Gly Leu Asn Val Thr Gln Phe  
 195 200 205  
 Phe Ala Asn Asp Ser Glu Asn Leu Glu Leu Lys Glu Phe Phe Asp Met  
 210 215 220  
 Lys Glu Phe Pro Glu Ile Glu Phe Asn Phe Tyr Glu Asn Pro Phe Ser  
 225 230 235 240  
 Lys Leu Phe Ser Ala Gly Asn Lys Asn Arg Leu Ser Glu Phe Phe Lys  
 245 250 255  
 Ala Ile Pro Trp Asn Ala Thr Gly Leu Gly Leu Ser Thr Gln Val Pro  
 260 265 270  
 Gln Arg Ile Leu Ser Leu Leu Ala Gln Phe Tyr Tyr Val Leu Ile Ser  
 275 280 285  
 Pro Leu Ala Cys Met Ala Ala Ile Ile Leu Ser Ala Tyr Leu Cys Leu  
 290 295 300  
 Arg Phe Ser Arg Thr Pro Thr Val Thr Leu Ala Tyr Leu Ile Pro Leu  
 305 310 315 320  
 Gly Thr Val Asn Ile Phe Phe Val Phe Leu Lys Ala Gly Ile Val Leu

Ala Ser Ser Ser Val Leu Pro Thr Leu Pro Val Met Ala Phe Pro Leu  
 340 345 350  
 Ile Val Leu Phe Leu Leu Thr Asn Tyr Ala Tyr Ala Lys Leu Gln  
 355 360 365

&lt;210&gt;1070

&lt;211&gt;358

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1070

Ala Met Pro Ile Leu Trp Lys Val Leu Ile Phe Arg Tyr Leu Lys Thr  
 1 5 10 15  
 Ala Ala Phe Cys Thr Leu Ser Leu Ile Cys Ile Ser Ile Ile Ser Ser  
 20 25 30  
 Leu Gln Glu Ile Val Ala Tyr Ile Ala Lys Asp Val Pro Tyr Asp Thr  
 35 40 45  
 Val Leu Arg Leu Met Ala Tyr Gln Ile Pro Tyr Leu Leu Pro Phe Ile  
 50 55 60  
 Leu Pro Gly Ser Cys Phe Val Ser Ala Phe Ser Leu Phe Arg Lys Leu  
 65 70 75 80  
 Ser Asp Asn Asn His Met Thr Phe Leu Arg Ala Ser Gly Ala Ser Gln  
 85 90 95  
 Ser Ile Ile Met Phe Pro Val Leu Met Val Ser Gly Ala Ile Cys Cys  
 100 105 110  
 Leu Asn Phe Tyr Thr Cys Ser Glu Leu Ala Ser Ile Cys Arg Tyr Gln  
 115 120 125  
 Thr Cys Lys Glu Ile Ala Asn Met Ala Met Thr Ser Pro Ala Leu Leu  
 130 135 140  
 Leu Gln Thr Leu Gln Lys Lys Glu Asn Asn Arg Ile Phe Ile Ala Val  
 145 150 155 160  
 Asp His Cys Ala Lys Ser Lys Phe Asp Asn Val Ile Val Ala Leu Lys  
 165 170 175  
 Gly Asn Asn Glu Ile Ser His Val Gly Ile Ile Lys Ser Ile Ile Pro  
 180 185 190  
 Asp Thr Thr Lys Asp Thr Val Lys Ala Lys Asp Val Val Phe Ile Ser  
 195 200 205  
 Lys Leu Pro Asp Ser Leu Thr Glu Ser Ser Ser Pro Ser Ser Gln Arg  
 210 215 220  
 Phe Tyr Ile Glu Thr Leu Asp Glu Leu Leu Ile Pro Lys Ile Thr Ser  
 225 230 235 240  
 Thr Leu Phe Ala Gly Lys Ser Tyr Leu Lys Thr Arg Thr Asp Tyr Leu  
 245 250 255  
 Pro Trp Lys Gln Leu Val Lys Gln Ser Leu Lys His Ser His Leu Pro  
 260 265 270  
 Glu Thr Leu Arg Arg Val Ala Ile Gly Phe Leu Cys Ile Thr Leu Thr  
 275 280 285  
 Tyr Ala Gly Met Ile Leu Gly Ile His Lys Pro Arg Phe Arg Lys Ser  
 290 295 300  
 Ile Ala Leu Tyr Phe Ile Phe Pro Ile Leu Asp Leu Ile Leu Leu Ile  
 305 310 315 320  
 Val Gly Lys Asn Thr Lys Asn Leu Pro Leu Ala Phe Met Leu Phe Val  
 325 330 335  
 Phe Pro Gln Leu Val Ser Trp Val Val Phe Ala Ala Arg Ala Tyr Arg  
 340 345 350  
 Glu Ser Arg Gly Tyr Ala  
 355

&lt;210&gt;1071

&lt;211&gt;319

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1071

Met Val Leu Ser Ser Asp Leu Leu Arg Asp Asp Lys Gln Leu Asp Leu  
 1 5 10 15  
 Phe Phe Ala Ser Leu Asp Val Lys Lys Arg Tyr Leu Leu Ala Leu Ser

Leu	Ile	Ser	Leu	Val	Val	Lys	Phe	Met	Ser	Lys	Asp	Lys	Lys	Met	Lys
1				5					10					15	
Pro	Glu	Pro	Lys	Lys	Asn	Phe	Pro	Thr	Val	Phe	Phe	Phe	Leu	Leu	Phe
			20					25					30		
Gly	Val	Val	Phe	Gly	Val	Val	Ala	Phe	Gln	Asn	Phe	Leu	Ala	Gly	Lys
			35				40					45			
Lys	Ala	Arg	Val	Gly	Phe	Ser	His	Gln	Ile	Glu	His	Leu	Val	Asn	Leu
	50					55					60				
Arg	Leu	Ile	Val	Pro	Glu	Asp	Ser	His	Lys	Ile	Ala	Leu	Asn	Asp	Asn
	65				70					75				80	
Leu	Val	Ser	Phe	Gly	Gly	Arg	Phe	Arg	Asp	Val	Gln	Thr	Gln	Glu	Gly
				85					90					95	
Gln	Leu	Arg	Tyr	His	Tyr	Leu	Glu	Leu	Ile	Asp	Gln	Gly	His	Arg	Leu
			100					105					110		
Asp	Leu	Asp	Leu	Gln	Glu	Thr	Ser	Lys	Ser	Leu	Thr	Thr	Leu	Gly	Lys
			115				120					125			
Glu	Val	Thr	Asn	Ser	Ile	Leu	Trp	Phe	Ser	Ala	Ile	Ser	Gly	Ser	Pro
	130					135					140				
Ile	Pro	Glu	Gln	Gly	Tyr	Ala	Ile	Ser	Tyr	Pro	Ser	Glu	Val	Ser	Gly
145					150					155				160	
Ser	Val	Leu	Thr	Glu	Pro	Leu	Val	Val	Thr	Gly	Pro	Ala	Thr	Pro	Gln
				165					170					175	

Leu	Ile	Asn	Leu		Ser	Leu	Gln	Glu	Arg	Tyr	Pro		Leu	Ser	Arg
			180					185					190		
Ser	Pro	Glu	Ala	Leu	Arg	Thr	Tyr	Gly	Ser	Asp	Leu	Tyr	Glu	Leu	Ile
		195					200					205			
Gly	Lys	Tyr	Leu	Ser	Pro	Val	Leu	Gly	Ile	Gly	Ser	Glu	Thr	Leu	Lys
	210					215					220				
Arg	Glu	Leu	Lys	Asp	Leu	Tyr	Gln	Gln	Val	Glu	Val	Ser	Leu	Thr	Gln
225					230					235					240
Glu	Thr	Asp	Thr	Glu	Ala	Ala	Tyr	Thr	Leu	Tyr	Gly	Gln	Val	Leu	Ser
			245						250					255	
Thr	Leu	Asn	Arg	Ile	Ser	Ser	Ser	Leu	Val	Val	Ser	Glu	Gly	Gly	Glu
		260						265					270		
Arg	Phe	Ser	Gln	Leu	Arg	Ser	Val	Arg	Leu	Tyr	Arg	Glu	Glu	Trp	Asn
	275						280					285			
Lys	Tyr	His	Lys	Leu	Val	Glu	Ala	Arg	Asp	Leu	Asn	Gln	Ala	Gln	Leu
	290					295					300				
Glu	Lys	Leu	Arg	Gly	Glu	Leu	Ser	Gln	Thr	Val	Trp	Tyr	Phe	Asn	Asn
305					310					315					320
Gln	Glu	Leu	Ser	Ser	Arg	Ser	Leu	Glu	Lys	Gln	Asp	Pro	Glu	Val	Phe
			325						330					335	
Gly	His	Trp	Phe	Ala	Gly	Ala	Lys	Glu	Glu	Trp	Thr	Ala	Phe	Lys	Phe
		340						345					350		
Asn	His	Ser	Leu	Ser	Phe	Lys	Ala	Pro	Asp	Gln	Pro	Arg	Asn	Leu	Val
	355						360					365			
Leu	Glu	Lys	Thr	Phe	Lys	Ser	Gln	Glu	Pro	Ser	Pro	His	Xaa	Leu	Gly
	370					375					380				
Tyr	Leu	Phe	Thr	Xaa	Leu	Pro	Ile	Ile	Leu	Val	Leu	Leu	Phe	Val	Tyr
385					390					395					400
Leu	Val	Phe	Ser	Arg	Gln	Met	Arg	Gly	Met	Ser	Gly	Ser	Ala	Met	Ser
			405						410					415	
Phe	Gly	Lys	Ser	Pro	Ala	Arg	Met	Leu	Leu	Lys	Gly	Gln	Asn	Lys	Val
		420						425					430		
Thr	Phe	Ala	Asp	Val	Ala	Gly	Ile	Glu	Glu	Ala	Lys	Glu	Glu	Leu	Ile
	435						440					445			
Glu	Ile	Val	Asp	Phe	Leu	Lys	Asn	Pro	Asn	Lys	Phe	Thr	Ser	Leu	Gly
	450					455					460				
Gly	Arg	Ile	Pro	Lys	Gly	Val	Leu	Leu	Ile	Gly	Pro	Pro	Gly	Thr	Gly
465					470					475					480
Lys	Thr	Leu	Ile	Ala	Lys	Ala	Val	Ser	Gly	Glu	Ala	Asp	Arg	Pro	Phe
			485						490					495	
Phe	Ser	Ile	Ala	Gly	Ser	Asp	Phe	Val	Glu	Met	Phe	Val	Gly	Val	Gly
		500						505					510		
Ala	Ser	Arg	Ile	Arg	Asp	Met	Phe	Glu	Gln	Ala	Lys	Arg	Asn	Ala	Pro
	515						520					525			
Cys	Ile	Ile	Phe	Ile	Asp	Glu	Ile	Asp	Ala	Val	Gly	Arg	His	Arg	Gly
	530					535					540				
Ala	Gly	Ile	Gly	Gly	Gly	His	Asp	Glu	Arg	Glu	Gln	Thr	Leu	Asn	Gln
545					550					555					560
Leu	Leu	Val	Glu	Met	Asp	Gly	Phe	Gly	Thr	Asn	Glu	Gly	Val	Ile	Leu
			565					570						575	
Met	Ala	Ala	Thr	Asn	Arg	Pro	Asp	Val	Leu	Asp	Lys	Ala	Leu	Leu	Arg
		580						585					590		
Pro	Gly	Arg	Phe	Asp	Arg	Arg	Val	Val	Met	Asn	Leu	Pro	Asp	Ile	Lys
	595						600					605			
Gly	Arg	Phe	Glu	Ile	Leu	Met	Val	His	Ala	Lys	Arg	Ile	Lys	Leu	Asp
	610					615					620				
Pro	Thr	Val	Asp	Leu	Met	Ala	Val	Ala	Arg	Ser	Thr	Pro	Gly	Ala	Ser
625					630					635					640
Gly	Ala	Asp	Leu	Glu	Asn	Leu	Leu	Asn	Glu	Ala	Ala	Leu	Leu	Ala	Ala
			645						650					655	
Arg	Lys	Asp	Arg	Thr	Ala	Val	Thr	Ala	Val	Asp	Val	Ala	Glu	Ala	Arg
		660						665					670		
Asp	Lys	Val	Leu	Tyr	Gly	Lys	Glu	Arg	Arg	Ser	Leu	Glu	Met	Asp	Ala
		675					680						685		

Glu Glu Arg Lys Thr Thr Ala Tyr His Glu Ser Gly His A al Val  
 690 695 700  
 Gly Leu Cys Val Gln His Gly Asp Pro Val Asp Lys Val Thr Ile Ile  
 705 710 715 720  
 Pro Arg Gly Leu Ser Leu Gly Ala Thr His Phe Leu Pro Glu Lys Asn  
 725 730 735  
 Lys Leu Ser Tyr Trp Lys Lys Glu Leu Tyr Asp Gln Leu Ala Val Leu  
 740 745 750  
 Met Gly Gly Arg Ala Ala Glu Glu Ile Phe Leu Gly Asp Ile Ser Ser  
 755 760 765  
 Gly Ala Gln Gln Asp Ile Ser Gln Ala Thr Lys Leu Val Arg Ser Met  
 770 775 780  
 Val Cys Glu Trp Gly Met Ser Pro Gln Leu Gly Asn Val Thr Tyr Asp  
 785 790 795 800  
 Glu Arg Ser Asp Gly Leu Thr Gly Tyr Gly Gly Tyr His Glu Lys Ser  
 805 810 815  
 Tyr Ser Glu Glu Thr Ala Lys Thr Ile Asp Thr Glu Leu Arg Met Leu  
 820 825 830  
 Leu Asp Ala Ala Tyr Gln Arg Ala Leu Asp Ile Ile Asn Glu His Lys  
 835 840 845  
 Ala Glu Ile Glu Leu Met Thr Gln Met Leu Ile Glu Phe Glu Thr Leu  
 850 855 860  
 Asp Ser Lys Asp Val Lys Glu Ile Met Asp His Thr Trp Asp Pro Glu  
 865 870 875 880  
 Lys Lys Arg Ala Arg Leu Lys Glu Glu Gly Met Leu Phe Lys Lys Ser  
 885 890 895  
 Ser Asp Asp Leu Pro Pro Pro Pro Pro Lys Glu Asp Thr Leu Pro Gly  
 900 905 910  
 Leu Gly Phe Asn Ala Thr  
 915

&lt;210&gt;1073

&lt;211&gt;568

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1073

Ser Ser Cys Tyr Leu Arg Xaa Ser Ala Ala Leu Ala Ile Ser Asp Ile  
 1 5 10 15  
 Pro Gln Ser Asn Ile Val Ala Gly Val Arg Ile Gly Cys Ile Asp Asn  
 20 25 30  
 Gln Trp Val Ile Asn Pro Thr Lys Thr Glu Leu Ala Ser Ser Thr Leu  
 35 40 45  
 Asp Leu Val Leu Ala Gly Thr Glu Asn Ala Ile Leu Met Ile Glu Gly  
 50 55 60  
 His Cys Asp Phe Phe Thr Glu Glu Gln Val Leu Asp Ala Ile Glu Phe  
 65 70 75 80  
 Gly His Lys His Ile Val Thr Ile Cys Lys Arg Leu Gln Leu Trp Gln  
 85 90 95  
 Glu Glu Val Gly Lys Ser Lys Asn Leu Ser Ala Val Tyr Pro Leu Pro  
 100 105 110  
 Ala Glu Val Leu Thr Ala Val Lys Glu Cys Ala Gln Asp Lys Phe Thr  
 115 120 125  
 Glu Leu Phe Asn Ile Lys Asp Lys Lys Val His Ala Ala Thr Ala His  
 130 135 140  
 Glu Ile Glu Glu Asn Ile Leu Glu Lys Leu Gln Arg Glu Asp Asp Asp  
 145 150 155 160  
 Leu Phe Ser Ser Phe Asn Ile Lys Ala Ala Cys Lys Thr Leu Lys Ser  
 165 170 175  
 Asp Thr Met Arg Ala Leu Ile Arg Asp Arg Glu Ile Arg Ala Asp Gly  
 180 185 190  
 Arg Ser Leu Thr Thr Val Arg Pro Ile Thr Ile Glu Thr Ser Tyr Leu  
 195 200 205  
 Pro Arg Thr His Gly Ser Cys Leu Phe Thr Arg Gly Glu Thr Gln Thr  
 210 215 220  
 Leu Ala Val Cys Thr Leu Gly Ser Glu Ala Met Ala Gln Arg Tyr Glu

225 230 235 240  
 Asp Leu Asn Gly Glu Gly Leu Ser Lys Phe Tyr Leu Gln Tyr Phe Phe  
 245 250 255  
 Pro Pro Phe Ser Val Gly Glu Val Gly Arg Ile Gly Ser Pro Gly Arg  
 260 265 270  
 Arg Glu Ile Gly His Gly Lys Leu Ala Glu Lys Ala Leu Ser His Ala  
 275 280 285  
 Leu Pro Asp Ser Ala Thr Phe Pro Tyr Thr Ile Arg Ile Glu Ser Asn  
 290 295 300  
 Ile Thr Glu Ser Asn Gly Ser Ser Ser Met Ala Ser Val Cys Gly Gly  
 305 310 315 320  
 Cys Leu Ala Leu Met Asp Ala Gly Val Pro Ile Ser Ser Pro Ile Ala  
 325 330 335  
 Gly Ile Ala Met Gly Leu Ile Leu Asp Asp Gln Gly Ala Ile Ile Leu  
 340 345 350  
 Ser Asp Ile Ser Gly Leu Glu Asp His Leu Gly Asp Met Asp Phe Lys  
 355 360 365  
 Ile Ala Gly Ser Gly Lys Gly Ile Thr Ala Phe Gln Met Asp Ile Lys  
 370 375 380  
 Val Glu Gly Ile Thr Pro Ala Ile Met Lys Lys Ala Leu Ser Gln Ala  
 385 390 395 400  
 Lys Gln Gly Cys Asn Asp Ile Leu Asn Ile Met Asn Glu Ala Leu Ser  
 405 410 415  
 Ala Pro Lys Ala Asp Leu Ser Gln Tyr Ala Pro Arg Ile Glu Thr Met  
 420 425 430  
 Gln Ile Lys Pro Thr Lys Ile Ala Ser Val Ile Gly Pro Gly Gly Lys  
 435 440 445  
 Gln Ile Arg Gln Ile Ile Glu Glu Thr Gly Val Gln Ile Asp Val Asn  
 450 455 460  
 Asp Leu Gly Val Val Ser Ile Ser Ala Ser Ser Ala Ser Ala Ile Asn  
 465 470 475 480  
 Lys Ala Lys Glu Ile Ile Glu Gly Leu Val Gly Glu Val Glu Val Gly  
 485 490 495  
 Lys Thr Tyr Arg Gly Arg Val Thr Ser Val Val Ala Phe Gly Ala Phe  
 500 505 510  
 Val Glu Val Leu Pro Gly Lys Glu Gly Leu Cys His Ile Ser Glu Cys  
 515 520 525  
 Ser Arg Gln Arg Ile Glu Asn Ile Ser Asp Val Val Lys Glu Gly Asp  
 530 535 540  
 Ile Ile Asp Val Lys Leu Leu Ser Ile Asn Glu Lys Gly Gln Leu Lys  
 545 550 555 560  
 Leu Ser His Lys Ala Thr Leu Glu  
 565

&lt;210&gt;1074

&lt;211&gt;127

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1074

Ser Asp Arg Ser Lys Ile Leu Val Phe Glu Thr Gly Lys Ile Ala Arg  
 1 5 10 15  
 Gln Ala Asn Gly Ala Val Leu Val Arg Ser Gly Glu Thr Cys Val Phe  
 20 25 30  
 Ala Ser Ala Cys Ala Val Asp Leu Asp Asp Lys Val Asp Phe Leu Pro  
 35 40 45  
 Leu Arg Val Asp Tyr Gln Glu Lys Phe Ser Ser Thr Gly Lys Thr Leu  
 50 55 60  
 Gly Gly Phe Ile Lys Arg Glu Gly Arg Pro Ser Glu Lys Glu Ile Leu  
 65 70 75 80  
 Val Ser Arg Leu Ile Asp Arg Ser Leu Arg Pro Ser Phe Pro Tyr Arg  
 85 90 95  
 Leu Met Gln Asp Val Gln Val Leu Ser Tyr Val Trp Ser Tyr Asp Gly  
 100 105 110  
 Gln Val Leu Pro Asp Pro Leu Ala Ile Cys Ala Xaa Leu Leu Leu  
 115 120 125



&lt;210&gt;1075

&lt;211&gt;163

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1075

```

Leu Gly Gly Glu Lys Leu Ile Asn Met Glu Lys Asp Ile Phe Phe Met
 1          5          10          15
Gln Gln Ala Phe Lys Glu Ala Arg Lys Ala Tyr Asp Gln Asp Glu Val
          20          25          30
Pro Val Gly Cys Val Ile Val Lys Asp Asp Lys Ile Ile Ala Arg Ala
          35          40          45
His Asn Ser Val Glu Lys Leu Lys Asp Ala Thr Ala His Ala Glu Ile
          50          55          60
Leu Cys Ile Gly Ser Ala Ala Gln Asp Leu Asp Asn Trp Arg Leu Leu
          65          70          75          80
Asp Thr Val Leu Tyr Cys Thr Leu Glu Pro Cys Leu Met Cys Ala Gly
          85          90          95
Ala Ile Gln Leu Ala Arg Ile Pro Arg Ile Val Trp Ala Ala Pro Asp
          100          105          110
Val Arg Leu Gly Ala Gly Gly Ser Trp Val Asn Ile Phe Thr Glu Glu
          115          120          125
His Pro Phe His Thr Val Ser Cys Thr Gly Gly Val Cys Ser Glu Glu
          130          135          140
Ala Glu His Leu Met Lys Lys Phe Phe Val Glu Lys Arg Arg Glu Lys
          145          150          155          160
Ser Glu Lys

```

&lt;210&gt;1076

&lt;211&gt;100

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1076

```

Lys Ser Ala Glu Arg Lys Val Lys Asn Lys Ile Val Thr Leu Leu Asp
 1          5          10          15
Gln Leu Tyr Glu Asp Gln Glu Ser Arg Leu Gln Lys Leu Gly Glu Glu
          20          25          30
Ile Val Pro Asn Leu Thr Pro Glu Asp Leu Leu Gln Pro Met Asp Phe
          35          40          45
Xaa Gln Leu Glu Gly Asn Pro Ala Phe Arg Phe Glu Glu Gly Val Leu
          50          55          60
Ser Gly Ile Gly Glu Val Arg Ala Ala Ile Phe Asn Gly Ala Leu Ser
          65          70          75          80
Arg Glu Leu Glu Ser Gln Arg Ser Ser Ile Gly Val Gly Asp Leu Phe
          85          90          95
Phe Phe Thr Lys
          100

```

&lt;210&gt;1077

&lt;211&gt;180

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1077

```

His Leu Ser Ile Glu Glu Leu Met Ser Ile Gln Pro Val Ser Asn Thr
 1          5          10          15
Thr Thr Lys Ala Asp Lys Val Ile Pro Asp Ser Thr Lys Val Ile Ser
          20          25          30
Asp Ser Ile Thr Ile Asn Lys Gln Ser Ala Phe Tyr Phe Cys Ile Ser
          35          40          45
Val Met Leu Arg Leu Ser Glu Ser Thr Thr Glu Tyr Gly Lys Ser Ile
          50          55          60
Leu Ala Val Leu Glu Asp Asn Thr Ile Val Gln Gln Arg Val Lys
          65          70          75          80
Glu Leu Ile Asn Leu Pro Leu Leu Lys Val Pro Asp Leu Gln Lys Lys
          85          90          95
Asp Gly Ser Asp Asp Glu Tyr Lys Asn Gln Asn Glu Ile Gln Ala Tyr

```

100 105 110  
 Gln Ser Ser Asn Gln Gln Ile Ser Ala Asn Arg Gln Met Ile Gln Gln  
 115 120 125  
 Glu Leu Ser Ser Ala Gln Gln Arg Ala Gln Ala Asn Gln Lys Ser Val  
 130 135 140  
 Asn Ser Thr Thr Ile Glu Ser Met Gln Ile Leu Gln Ala Thr Ser Ser  
 145 150 155 160  
 Met Leu Ser Thr Leu Lys Glu Leu Thr Ile Lys Ala Asn Leu Thr Asn  
 165 170 175  
 Ser Pro Ser Asp  
 180

&lt;210&gt;1078

&lt;211&gt;181

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1078

Asn Arg Lys Pro Val Arg Leu Asn Met Trp Ile Ile Asp Pro Leu Ser  
 1 5 10 15  
 Ala Lys Xaa Pro Leu Gln Ala Ala Ile Asn Val Pro Gly Thr Pro Ile  
 20 25 30  
 Thr Gly Gly Pro Asn Thr Ala Thr Ala Asp Asp Ile Ile Ala Lys Phe  
 35 40 45  
 Ser Lys Asp Ser Asn Pro Leu Ile Val Thr Val Tyr Tyr Val Tyr Gln  
 50 55 60  
 Ser Val Leu Val Ala Gln Asp Asn Leu Ser Ile Ile Ala Gln Glu Leu  
 65 70 75 80  
 Gln Ala Asn Ser Ser Ala Gln Thr Tyr Leu Asn Asn Gln Glu Ala Leu  
 85 90 95  
 Tyr Gln Tyr Val Ser Ile Pro Lys Asn Lys Leu Asn Asp Asn Ser Ser  
 100 105 110  
 Ser Tyr Leu Gln Asn Ile Gln Ser Asp Asn Gln Ala Ile Gly Ala Ser  
 115 120 125  
 Arg Gln Ala Ile Gln Asn Gln Ile Ser Ser Leu Gly Asn Ala Ala Gln  
 130 135 140  
 Val Ile Ser Ser Asn Leu Asn Thr Asn Asn Ile Ile Gln Gln Ser  
 145 150 155 160  
 Leu Gln Val Gly Gln Ala Leu Ile Gln Thr Phe Ser Gln Ile Val Ser  
 165 170 175  
 Leu Ile Ala Asn Ile  
 180

&lt;210&gt;1079

&lt;211&gt;168

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1079

Thr Lys Val Asn Phe Phe Ile Met Ser Ile Thr Thr Leu Gly Thr Leu  
 1 5 10 15  
 Pro Thr Val Asn Thr Ile Asn Ser Ser Arg Pro Pro Leu Glu Pro Leu  
 20 25 30  
 Asn Thr Pro Lys Ile Gly Ala Val Leu Phe Ser Ile Tyr Glu Leu Leu  
 35 40 45  
 Leu Gln Ala Ile Glu Ile Arg Gln Gln Thr Val Leu Thr Gln Ser Gln  
 50 55 60  
 Gln Leu Asn Asp Asn Thr Asn Ile Gln Gln Gln Leu Asn Gln Glu Thr  
 65 70 75 80  
 Asn Gln Ile Lys Tyr Ala Ile Val Ser Ala Gly Ala Lys Glu Asp Glu  
 85 90 95  
 Ile Thr Arg Val Gln Asn Gln Asn Gln Asn Tyr Ser Ala Gln Arg Ser  
 100 105 110  
 Asn Ile Gln Asp Glu Leu Val Thr Thr Arg Gln Asn Gly Gln Ile Ile  
 115 120 125  
 Leu Ser His Ala Ser Thr Asn Ile Asn Ile Ile Gln Gln Ser Ser  
 130 135 140  
 Gln Asp Ser Ser Phe Ile Lys Thr Thr Asn Ser Ile Gly Ser Thr Val

145  
 Asn Gln Leu Asn Lys Pro Leu Gly  
 165  
 <210>1080  
 <211>440  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1080  
 Val Leu Asn Tyr Ser Phe Ile Gly Met Leu Lys Pro Met Tyr Val Leu  
 1 5 10 15  
 Ser Lys Arg Leu Tyr Arg Trp Val Asn Gln Leu Ile Lys Leu Gly Asp  
 20 25 30  
 Leu Val Lys Asn Ser Arg Ser Phe Ser Val Glu Trp Val Phe Ile Ser  
 35 40 45  
 Ala Leu Leu Leu Ile Phe Gly Cys Leu Gly Cys Ala Ser Val Val Lys  
 50 55 60  
 Val Ser Leu Val Pro Phe Leu Leu Leu Phe Ser Phe Leu Ala Phe Pro  
 65 70 75 80  
 Leu Ile Leu Cys Phe Arg Gly Lys Gly Tyr Ala Leu Leu Leu Gly Val  
 85 90 95  
 Phe Val Thr Leu Tyr Val Ala Lys Tyr Val Val Gly Glu Thr Leu Tyr  
 100 105 110  
 Val Ser Phe Trp Leu Ser Gly Leu Gly Val Ser Phe Leu Leu Ala Phe  
 115 120 125  
 Gly Leu Phe Leu Gln Gly Val Trp Leu Ala Gln Glu Glu Met Val  
 130 135 140  
 Lys Gly Lys Glu Gln Leu Arg Leu Ser Glu Asp Leu Asp Ala Gln Arg  
 145 150 155 160  
 Ser Ala Tyr Glu Asp Leu Leu Leu Thr Lys Ser Gln Glu Lys Glu Phe  
 165 170 175  
 Leu Asp Ala Arg Ala Gln Gly Leu Asp Arg Glu Leu Thr Glu Cys Gln  
 180 185 190  
 Glu Leu Leu Lys Ala Ala Tyr Gln Lys Gln Glu Tyr Leu Thr Ile Asp  
 195 200 205  
 Leu Lys Ile Leu Ala Asp Gln Lys Asn Ser Trp Leu Glu Asp Tyr Ala  
 210 215 220  
 Glu Leu His Asn Lys Tyr Ile Glu Leu Val Ser Lys Asn Gly Asp Val  
 225 230 235 240  
 Val Phe Pro Trp Val Ala Glu Pro Ser Val Gly Glu Ser Gln Gly Ser  
 245 250 255  
 Glu Arg Val Asp Val Ser Arg Trp Val Ser Ala Leu Gln Glu Lys Glu  
 260 265 270  
 Glu Ser Leu Glu Arg Leu Arg Asn Glu Ile Leu Val Glu Lys Gln Arg  
 275 280 285  
 Cys Ser Asp Tyr Glu His Arg Cys Gln Glu Leu Gly Leu Leu Leu Gln  
 290 295 300  
 Asn Phe Thr Ala Leu Glu Arg Arg Cys Glu Glu Leu Gln Asn Leu Leu  
 305 310 315 320  
 Asn Gln Lys Glu Thr Gln Ile Asn Glu Leu His Gln Leu Val Cys Lys  
 325 330 335  
 Ser Glu Glu Lys Val Ser Val Glu Pro Ser Ala His Ala Glu Thr Ser  
 340 345 350  
 Cys Val Glu Glu Lys Gln Tyr Lys Gly Leu Tyr Ser Gln Leu Gln Glu  
 355 360 365  
 Gln Phe Leu Glu Lys Ser Glu Thr Leu Ser Leu Val Arg Lys Lys Leu  
 370 375 380  
 Phe Ala Val Gln Glu Lys Tyr Leu Thr Leu Lys Lys Lys Glu Glu Leu  
 385 390 395 400  
 Thr Lys Gln Asp Ile Ser Phe Asp Asp Ile Ser Met Ile Gln Gly Leu  
 405 410 415  
 Leu Glu Arg Ile Glu Ile Leu Glu Glu Val Ser His Leu Glu Glu  
 420 425 430  
 Leu Val Ser Arg Ser Leu Ser Leu  
 435 440

&lt;210&gt;1081

&lt;211&gt;294

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1081

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Val Ile Leu Met Lys Arg Asn Asp Pro Cys Trp Cys Gly Ser Gly Arg
 1           5           10           15
Lys Trp Lys Gln Cys His Tyr Pro Gln Pro Pro Lys Met Ser Pro Glu
          20           25           30
Ala Leu Lys Gln His Tyr Ala Ser Gln Tyr Asn Ile Leu Leu Lys Thr
          35           40           45
Pro Glu Gln Lys Ala Lys Ile Tyr Asn Ala Cys Gln Ile Thr Ala Arg
          50           55           60
Ile Leu Asp Glu Leu Cys Lys Ala Ser Gln Lys Gly Val Thr Thr Asn
          65           70           75           80
Glu Leu Asp Glu Leu Ser Gln Glu Leu His Lys Lys Tyr Asp Ala Ile
          85           90           95
Ala Ala Pro Phe His Tyr Gly Ser Pro Pro Phe Pro Lys Thr Ile Cys
          100          105          110
Thr Ser Leu Asn Glu Val Ile Cys His Gly Ile Pro Asn Asp Ile Pro
          115          120          125
Leu Lys Asp Gly Asp Ile Met Asn Ile Asp Val Ser Cys Ile Val Asp
          130          135          140
Gly Tyr Tyr Gly Asp Cys Ser Arg Met Val Met Ile Gly Glu Val Pro
          145          150          155          160
Glu Ile Lys Lys Lys Ile Cys Gln Ala Ala Leu Glu Cys Leu Asn Asp
          165          170          175
Ser Ile Ala Ile Leu Lys Pro Gly Ile Pro Leu Cys Glu Ile Gly Glu
          180          185          190
Ala Ile Glu Ala Arg Ala Asp Thr Tyr Gly Phe Ser Val Val Asp Gln
          195          200          205
Phe Val Gly His Gly Val Gly Ile Glu Phe His Glu Asn Pro Tyr Val
          210          215          220
Pro His Tyr Arg Asn Arg Ser Met Ile Pro Leu Ala Pro Gly Met Ile
          225          230          235          240
Phe Thr Ile Glu Pro Met Ile Asn Val Gly Lys Lys Glu Gly Val Val
          245          250          255
Asp Pro Lys Asn Gln Trp Glu Ala Arg Thr Cys Asp Asn Gln Pro Ser
          260          265          270
Ala Gln Trp Glu His Thr Ile Ala Ile Thr Glu Thr Gly Tyr Glu Ile
          275          280          285
Leu Thr Leu Leu Asn Asp
          290

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&lt;210&gt;1082

&lt;211&gt;202

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1082

```

Met Leu Ile Leu Leu Asn Leu Ser Leu Leu Phe Tyr Val Leu Phe Asp
 1           5           10           15
Ser Pro Gly Ser Ile Pro Val Phe Val Ala Leu Leu Lys Asn Phe Ser
          20           25           30
Arg Lys Lys Gln Gln Arg Val Ile Leu Arg Glu Cys Leu Phe Ala Leu
          35           40           45
Gly Ala Leu Ile Leu Phe Val Thr Phe Gly Arg Ser Phe Phe Gln Phe
          50           55           60
Leu Asp Ile Ser Leu Tyr Ala Phe Gln Ile Ile Gly Gly Phe Leu Leu
          65           70           75           80
Phe Thr Val Ser Ile Lys Met Met Leu Ala Pro Met Pro Glu Lys Ala
          85           90           95
Lys Asp Asp Thr Ser Lys Thr Glu Pro Ile Phe Phe Pro Leu Ala Phe
          100          105          110
Pro Val Ile Thr Gly Pro Ala Val Ile Thr Ala Leu Leu Ser Tyr Met
          115          120          125

```

Glu Glu Gly Ile Tyr Ser Arg Glu Ile Ile Phe Thr Ala Met Ile Ile  
 130 135 140  
 Ala Trp Ala Phe Ser Leu Phe Thr Leu Leu Cys Ser Ser Phe Phe Asp  
 145 150 155 160  
 Arg Leu Ser Gly Asn Phe Gly Leu Leu Ala Leu Glu Arg Leu Phe Gly  
 165 170 175  
 Ile Ala Leu Leu Leu Met Ser Val Asn Leu Met Leu Lys Gly Ile Ser  
 180 185 190  
 Ile Ala Phe Asn Ile Gly Phe Tyr Ile Gly  
 195 200

&lt;210&gt;1083

&lt;211&gt;251

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1083

Thr Ser Arg Tyr Gly Pro Leu Pro Cys Ser Arg His His Glu Asp Leu  
 1 5 10 15  
 His Lys Arg His Ala Asn Thr Asn Arg Arg Glu Ile Asp Arg Gln Phe  
 20 25 30  
 Pro Ala Arg Phe Leu Tyr Arg Ser Gln Asp Pro Ile Tyr Lys Phe Glu  
 35 40 45  
 Asp Leu Asn Gly Lys Val Leu Gly Phe Cys Leu Asn Asn Ser Arg Asp  
 50 55 60  
 Leu Asn Arg Leu Leu Glu Thr Leu Asn Arg Asn Gly Val Val Pro Ser  
 65 70 75 80  
 Glu Val Lys Asn Val Ser Ser Asp Leu Ile Ser Pro Met Leu Leu Asn  
 85 90 95  
 Lys Ile Asp Phe Leu Tyr Gly Ala Phe Tyr Asn Ile Glu Gly Val Lys  
 100 105 110  
 Leu Gln Thr Leu Gly Met Pro Val Lys Cys Phe Leu Ser Asp Thr Cys  
 115 120 125  
 Asp Leu Pro Thr Gly Pro Gln Leu Ile Val Phe Thr Lys Lys Gly Thr  
 130 135 140  
 Lys Ala Ser Glu Pro Glu Ile Val Glu Ala Phe Gln Lys Ala Leu Gln  
 145 150 155 160  
 Glu Ser Ile Ile Phe Ser Lys Asp His Pro Glu Asp Ala Phe Lys Leu  
 165 170 175  
 Tyr Ala Lys Glu Thr Lys Ser Ile Pro Lys Asn Leu Tyr Gln Glu Tyr  
 180 185 190  
 Leu Gln Trp Glu Glu Thr Phe Pro Leu Leu Ala Gln Ser Gln Asp Pro  
 195 200 205  
 Leu Ser Lys Asp Leu Val Asp Lys Leu Leu Glu Thr Ile Ile Lys Arg  
 210 215 220  
 Tyr Pro Glu Leu Ala Ser Glu Val Ala Lys Phe Ser Leu Asn Asp Leu  
 225 230 235 240  
 Tyr Asn Pro Ser Leu Pro Glu Glu Gln Ser Val  
 245 250

&lt;210&gt;1084

&lt;211&gt;303

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1084

Arg Ser Pro Thr Thr Ser Phe His Pro Ala Thr Val His Ser Tyr Val  
 1 5 10 15  
 Cys Ser Gly Ser Thr Asp Cys Thr Leu Val Trp Leu Gly Asn Arg Cys  
 20 25 30  
 Cys Asn Arg Pro Tyr Ser Thr His Ile Leu Ser Ala His Pro Asp  
 35 40 45  
 Tyr Leu Ser Gly His Leu Ile Asn Thr Arg Arg Thr Tyr Arg Ala Ile  
 50 55 60  
 Arg Pro Leu Arg Ser Thr Lys Phe Gln Leu Leu Ile Lys Leu Arg Ile  
 65 70 75 80  
 Pro His Ala Leu Pro His Ile Phe Ser Gly Leu Lys Ile Ala Ile Gly  
 85 90 95

Ser Ala Gly Phe Ala Ile Ala Gly Glu Trp Val Ala Ser Gln Ser  
 100 105 110  
 Gly Leu Gly Ile Leu Met Leu Glu Ser Arg Arg Asn Tyr Glu Met Glu  
 115 120 125  
 Leu Ala Phe Ala Gly Leu Ala Thr Leu Ser Ile Leu Thr Leu Ser Leu  
 130 135 140  
 Phe Gln Ile Thr Leu Leu Ile Glu Lys Leu Ile Phe Ser Leu Phe Arg  
 145 150 155 160  
 Val Lys Arg Met Ser Leu Lys His Lys Ser Val Ala Lys Lys Ala Leu  
 165 170 175  
 Ser Val Leu Ala Leu Ile Pro Ile Met Leu Ile Pro Trp Lys Gly Asn  
 180 185 190  
 Ser Lys Ser Pro Pro Asp Lys Lys Asn Leu Thr Ser Leu Thr Leu Leu  
 195 200 205  
 Leu Asp Trp Thr Pro Asn Pro Asn His Ile Pro Leu Tyr Ala Gly Val  
 210 215 220  
 Ala Lys Gly Tyr Phe Lys Gln His Gly Leu Asp Leu Gln Leu Gln Lys  
 225 230 235 240  
 Asn Thr Asp Ser Ser Ser Ala Val Pro His Val Leu Phe Glu Gln Val  
 245 250 255  
 Asp Met Ala Leu Tyr His Ala Leu Gly Ile Met Lys Thr Ser Ile Lys  
 260 265 270  
 Gly Met Pro Ile Gln Ile Val Gly Arg Leu Ile Asp Ser Ser Leu Gln  
 275 280 285  
 Asp Phe Ser Thr Glu Val Arg Thr Pro Ser Thr Asn Leu Lys Thr  
 290 295 300

&lt;210&gt;1085

&lt;211&gt;460

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1085

Met Arg Gln Glu Lys Asp Ser Leu Gly Ile Val Glu Val Pro Glu Asp  
 1 5 10 15  
 Lys Leu Tyr Gly Ala Gln Thr Met Arg Ser Arg Asn Phe Phe Ser Trp  
 20 25 30  
 Gly Pro Glu Leu Met Pro Tyr Glu Val Ile Arg Ala Leu Val Trp Ile  
 35 40 45  
 Lys Lys Cys Ala Ala Gln Ala Asn Gln Asp Leu Gly Phe Leu Asp Ser  
 50 55 60  
 Lys His Cys Asp Met Ile Val Ala Ala Ala Asp Glu Ile Leu Glu Gly  
 65 70 75 80  
 Gly Phe Glu Glu His Phe Pro Leu Lys Val Trp Gln Thr Gly Ser Gly  
 85 90 95  
 Thr Gln Ser Asn Met Asn Val Asn Glu Val Ile Ala Asn Leu Ala Ile  
 100 105 110  
 Arg His His Gly Gly Val Leu Gly Ser Lys Asp Pro Ile His Pro Asn  
 115 120 125  
 Asp His Val Asn Lys Ser Gln Ser Ser Asn Asp Val Phe Pro Thr Ala  
 130 135 140  
 Met His Ile Ala Ala Val Ile Ser Leu Lys Asn Lys Leu Ile Pro Ala  
 145 150 155 160  
 Leu Asp His Met Ile Arg Val Leu Asp Ala Lys Val Glu Glu Phe Arg  
 165 170 175  
 His Asp Val Lys Ile Gly Arg Thr His Leu Met Asp Ala Val Pro Met  
 180 185 190  
 Thr Leu Gly Gln Glu Phe Ser Gly Tyr Ser Ser Gln Leu Arg His Cys  
 195 200 205  
 Leu Glu Ser Ile Ala Phe Ser Leu Ala His Leu Tyr Glu Leu Ala Ile  
 210 215 220  
 Gly Ala Thr Ala Val Gly Thr Gly Leu Asn Val Pro Glu Gly Phe Val  
 225 230 235 240  
 Glu Lys Ile Ile His Tyr Leu Arg Lys Xaa Thr Asp Glu Pro Phe Ile  
 245 250 255  
 Pro Ala Xaa Asn Tyr Phe Ser Ala Leu Ser Cys His Asp Ala Leu Val

<211>20  
 <212>DNA  
 <400>1396  
 gaccttgcca gcttgggtcg 20  
 <210>1397  
 <211>20  
 <212>DNA  
 <400>1397  
 gctgctaaat cccatcgctt 20  
 <210>1398  
 <211>20  
 <212>DNA  
 <400>1398  
 gttttgtggc tttggcagtg 20  
 <210>1399  
 <211>20  
 <212>DNA  
 <400>1399  
 actttcctaa gaagcgtagc 20  
 <210>1400  
 <211>20  
 <212>DNA  
 <400>1400  
 gaggaatggc gcaggagtta 20  
 <210>1401  
 <211>20  
 <212>DNA  
 <400>1401  
 gcagtgaaaa cggaatccag 20  
 <210>1402  
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 gcgtggggat tgtagggata 20  
 <210>1403  
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 <400>1403  
 ggccggggat caatcagcta 20  
 <210>1404  
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 <212>DNA  
 <400>1404  
 gaataagatg caggcggaag 20  
 <210>1405  
 <211>20  
 <212>DNA  
 <400>1405  
 gggagacgtt tgtgcgtaaa 20  
 <210>1406  
 <211>20  
 <212>DNA  
 <400>1406  
 cgtcctgcag gtgttattgt 20  
 <210>1407  
 <211>20  
 <212>DNA  
 <400>1407  
 caaggggtgt agagaaagga 20  
 <210>1408  
 <211>20  
 <212>DNA  
 <400>1408  
 gaagacaaac cttgtcctgg 20

Thr Val Met Thr Ile Thr Ala Ala Val Gln Val Met Met Leu  
 275 280 285  
 Ala Ala Phe Leu Phe Met Lys Gln Met Ser Asp Leu Ser Asp Val Ile  
 290 295 300  
 Ser Thr Ala Lys Tyr Phe Asp Lys Asp Ser Asp Phe Leu Ser Lys Ala  
 305 310 315 320  
 Glu Val Pro Gln Asn Thr Glu Ile Tyr Glu Ile Asn Gly Pro Phe Phe  
 325 330 335  
 Phe Gly Ile Ala Asp Arg Leu Lys Asn Leu Leu Asn Asp Ile Glu Lys  
 340 345 350  
 Pro Pro Lys Ile Phe Ile Leu Cys Met Thr Arg Val Pro Thr Ile Asp  
 355 360 365  
 Ala Ser Ala Met His Ala Leu Glu Glu Phe Phe Leu Glu Cys Asp Arg  
 370 375 380  
 Gln Gly Thr Leu Leu Leu Leu Ala Gly Val Lys Lys Thr Pro Leu Ala  
 385 390 395 400  
 Asp Leu Lys Arg Tyr His Leu Asp Glu Leu Ile Gly Val Asp His Ile  
 405 410 415  
 Phe Ser Asn Ile Lys Ser Ala Leu Leu Phe Ala Gln Ala Leu Thr Asn  
 420 425 430  
 Leu Glu Ser Lys Thr Ser Thr Arg His Leu Val  
 435 440

&lt;210&gt;1087

&lt;211&gt;143

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1087

Lys Asn Phe Ile Pro Lys Leu Tyr Thr Ser Ile Lys Glu Gly Tyr Ser  
 1 5 10 15  
 Phe Asn Thr Phe Lys Lys Asp Phe Gln Ala Gly Ile Thr Val Gly Ile  
 20 25 30  
 Leu Ala Phe Pro Phe Ala Ile Ala Ile Ala Ile Gly Val Gly Val Ser  
 35 40 45  
 Pro Ile Gln Gly Leu Leu Ala Ser Ile Ile Gly Gly Leu Leu Ala Ser  
 50 55 60  
 Ala Met Gly Gly Ser Asn Val Leu Ile Ser Gly Pro Ser Ser Ala Phe  
 65 70 75 80  
 Ile Ser Ile Leu Tyr Cys Leu Ser Ala Lys Tyr Gly Ala Glu Ala Leu  
 85 90 95  
 Phe Thr Val Thr Leu Leu Ala Gly Val Phe Leu Ile Ala Phe Gly Leu  
 100 105 110  
 Thr Gly Leu Gly Thr Phe Ile Lys Tyr Met Pro Tyr Pro Val Val Thr  
 115 120 125  
 Gly Leu Thr His Arg Thr Cys Asp His Tyr Ile Leu Leu Ala Asn  
 130 135 140

&lt;210&gt;1088

&lt;211&gt;422

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1088

Val Thr Met Leu Lys Leu Gln Leu Cys Ala Leu Phe Leu Phe Gly Tyr  
 1 5 10 15  
 Leu Ala Ile Val Phe Glu His Ile Val Arg Val Asn Lys Ser Ala Ile  
 20 25 30  
 Ala Leu Ala Met Gly Gly Leu Met Trp Leu Val Cys Phe Ser His Ile  
 35 40 45  
 Pro Met Ala Asp His Met Ile Leu Val Glu Glu Ile Ala Asp Met Ser  
 50 55 60  
 Gln Val Ile Phe Phe Leu Phe Ser Ala Met Ala Ile Val Glu Leu Ile  
 65 70 75 80  
 Asp Ala His Lys Gly Phe Ser Val Ile Val Lys Phe Cys Arg Ile Gln  
 85 90 95  
 Ser Arg Thr Leu Leu Leu Trp Ala Leu Ile Gly Leu Ser Phe Phe Leu  
 100 105 110



Ser Ala Ala Leu Asp Asn Leu Thr Ser Ile Ile Ile Ile Ile Ser Ile  
 115 120 125  
 Leu Lys Arg Leu Val Lys Ala Arg Glu Asp Arg Leu Leu Leu Gly Ala  
 130 135 140  
 Ile Cys Val Ile Ala Val Asn Ala Gly Gly Ala Trp Thr Pro Leu Gly  
 145 150 155 160  
 Asp Val Thr Thr Thr Met Leu Trp Ile Asn Asn Lys Ile Thr Ser Trp  
 165 170 175  
 Gly Ile Ile Arg Ala Leu Phe Val Pro Ser Leu Val Cys Val Leu Val  
 180 185 190  
 Ala Gly Phe Cys Gly Gln Phe Phe Leu Arg Lys Arg Gly Ser Thr Leu  
 195 200 205  
 Ile Ala Lys Asp Val Glu Leu Gln Ser Ala Pro Pro Lys Ser Leu Trp  
 210 215 220  
 Ile Ile Phe Ile Gly Leu Gly Ser Leu Leu Met Val Pro Val Trp Lys  
 225 230 235 240  
 Ala Cys Leu Gly Leu Pro Pro Phe Met Gly Ala Leu Leu Gly Leu Gly  
 245 250 255  
 Leu Val Trp Leu Thr Ser Asp Trp Ile His Ser Pro His Gly Glu Asp  
 260 265 270  
 Arg Tyr His Leu Arg Val Pro His Ile Leu Thr Lys Ile Asp Ile Ser  
 275 280 285  
 Ser Ile Thr Phe Phe Ile Gly Ile Leu Leu Ala Val Asn Ala Leu Ser  
 290 295 300  
 Phe Ala Asn Leu Leu Thr Asp Phe Ser Leu Trp Met Asp Lys Ile Phe  
 305 310 315 320  
 Ser Arg Asn Val Val Ala Ile Val Ile Gly Leu Leu Ser Ser Val Leu  
 325 330 335  
 Asp Asn Val Pro Leu Val Ala Xaa Thr Met Gly Met Tyr Thr Leu Pro  
 340 345 350  
 Leu Asp Asp Thr Leu Trp Lys Leu Ile Ala Tyr Ala Ala Xaa Thr Gly  
 355 360 365  
 Gly Ser Ile Leu Ile Ile Gly Ser Ala Ala Gly Val Ala Phe Met Gly  
 370 375 380  
 Leu Glu Lys Val Asp Phe Leu Trp Tyr Phe Lys Arg Ile Ser Trp Ile  
 385 390 395 400  
 Ala Leu Ala Ser Tyr Phe Gly Gly Leu Phe Ser Tyr Phe Val Leu Glu  
 405 410 415  
 Ser Leu Asn Phe Phe Ile  
 420

&lt;210&gt;1089

&lt;211&gt;624

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1089

Lys Arg Glu Val Phe Met Lys Lys Gly Lys Leu Gly Ala Ile Val Phe  
 1 5 10 15  
 Gly Leu Leu Phe Thr Ser Ser Val Ala Gly Phe Ser Lys Asp Leu Thr  
 20 25 30  
 Lys Asp Asn Ala Tyr Gln Asp Leu Asn Val Ile Glu His Leu Ile Ser  
 35 40 45  
 Leu Lys Tyr Ala Pro Leu Pro Trp Lys Glu Leu Leu Phe Gly Trp Asp  
 50 55 60  
 Leu Ser Gln Gln Thr Gln Gln Ala Arg Leu Gln Leu Val Leu Glu Glu  
 65 70 75 80  
 Lys Pro Thr Thr Asn Tyr Cys Gln Lys Val Leu Ser Asn Tyr Val Arg  
 85 90 95  
 Ser Leu Asn Asp Tyr His Ala Gly Ile Thr Phe Tyr Arg Thr Glu Ser  
 100 105 110  
 Ala Tyr Ile Pro Tyr Val Leu Lys Leu Ser Glu Asp Gly His Val Phe  
 115 120 125  
 Val Val Asp Val Gln Thr Ser Gln Gly Asp Ile Tyr Leu Gly Asp Glu  
 130 135 140  
 Ile Leu Glu Val Asp Gly Met Gly Ile Arg Glu Ala Ile Glu Ser Leu

145 150 155 160  
 Arg Phe Gly Arg Gly Ser Ala Thr Asp Tyr Ser Ala Ala Val Arg Ser  
 165 170 175  
 Leu Thr Ser Arg Ser Ala Ala Phe Gly Asp Ala Val Pro Ser Gly Ile  
 180 185 190  
 Ala Met Leu Lys Leu Arg Arg Pro Ser Gly Leu Ile Arg Ser Thr Pro  
 195 200 205  
 Val Arg Trp Arg Tyr Thr Pro Glu His Ile Gly Asp Phe Ser Leu Val  
 210 215 220  
 Ala Pro Leu Ile Pro Glu His Lys Pro Gln Leu Pro Thr Gln Ser Cys  
 225 230 235 240  
 Val Leu Phe Arg Ser Gly Val Asn Ser Gln Ser Ser Ser Ser Ser Leu  
 245 250 255  
 Phe Ser Ser Tyr Met Val Pro Tyr Phe Trp Glu Glu Leu Arg Val Gln  
 260 265 270  
 Asn Lys Gln Arg Phe Asp Ser Asn His His Ile Gly Ser Arg Asn Gly  
 275 280 285  
 Phe Leu Pro Thr Phe Gly Pro Ile Leu Trp Glu Gln Asp Lys Gly Pro  
 290 295 300  
 Tyr Arg Ser Tyr Ile Phe Lys Ala Lys Asp Ser Gln Gly Asn Pro His  
 305 310 315 320  
 Arg Ile Gly Phe Leu Arg Ile Ser Ser Tyr Val Trp Thr Asp Leu Glu  
 325 330 335  
 Gly Leu Glu Glu Asp His Lys Asp Ser Pro Trp Glu Leu Phe Gly Glu  
 340 345 350  
 Ile Ile Asp His Leu Glu Lys Glu Thr Asp Ala Leu Ile Ile Asp Gln  
 355 360 365  
 Thr His Asn Pro Gly Gly Ser Val Phe Tyr Leu Tyr Ser Leu Leu Ser  
 370 375 380  
 Met Leu Thr Asp His Pro Leu Asp Thr Pro Lys His Arg Met Ile Phe  
 385 390 395 400  
 Thr Gln Asp Glu Val Ser Ser Ala Leu His Trp Gln Asp Leu Leu Glu  
 405 410 415  
 Asp Val Phe Thr Asp Glu Gln Ala Val Ala Val Leu Gly Glu Thr Met  
 420 425 430  
 Glu Gly Tyr Cys Met Asp Met His Ala Val Ala Ser Leu Gln Asn Phe  
 435 440 445  
 Ser Gln Ser Val Leu Ser Ser Trp Val Ser Gly Asp Ile Asn Leu Ser  
 450 455 460  
 Lys Pro Met Pro Leu Leu Gly Phe Ala Gln Val Arg Pro His Pro Lys  
 465 470 475 480  
 His Gln Tyr Thr Lys Pro Leu Phe Met Leu Ile Asp Glu Asp Asp Phe  
 485 490 495  
 Ser Cys Gly Asp Leu Ala Pro Ala Ile Leu Lys Asp Asn Gly Arg Ala  
 500 505 510  
 Thr Leu Ile Gly Lys Pro Thr Ala Gly Ala Gly Gly Phe Val Phe Gln  
 515 520 525  
 Val Thr Phe Pro Asn Arg Ser Gly Ile Lys Gly Leu Ser Leu Thr Gly  
 530 535 540  
 Ser Leu Ala Val Arg Lys Asp Gly Glu Phe Ile Glu Asn Leu Gly Val  
 545 550 555 560  
 Ala Pro His Ile Asp Leu Gly Phe Thr Ser Arg Asp Leu Gln Thr Ser  
 565 570 575  
 Arg Phe Thr Asp Tyr Val Glu Ala Val Lys Thr Ile Val Leu Thr Ser  
 580 585 590  
 Leu Ser Glu Asn Ala Lys Lys Ser Glu Glu Gln Thr Ser Pro Gln Glu  
 595 600 605  
 Thr Pro Glu Val Ile Arg Val Ser Tyr Pro Thr Thr Thr Ser Ala Leu  
 610 615 620

&lt;210&gt;1090

&lt;211&gt;310

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1090

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Met Arg Lys Leu Ile Leu Cys Asn Pro Arg Gly Phe Cys Ser Gly Val
 1           5           10           15
Val Arg Ala Ile Gln Val Val Glu Val Ala Leu Glu Lys Trp Gly Ala
          20           25           30
Pro Ile Tyr Val Lys His Glu Ile Val His Asn Arg His Val Val Asn
          35           40           45
Ala Leu Arg Ala Lys Gly Ala Ile Phe Val Glu Glu Leu Val Asp Val
          50           55           60
Pro Glu Gly Glu Arg Val Ile Tyr Ser Ala His Gly Ile Pro Pro Ser
          65           70           75           80
Val Arg Ala Glu Ala Lys Ala Arg Lys Leu Ile Asp Ile Asp Ala Thr
          85           90           95
Cys Gly Leu Val Thr Lys Val His Ser Ala Ala Lys Leu Tyr Ala Ser
          100          105          110
Lys Gly Tyr Lys Ile Ile Leu Ile Gly His Lys Lys His Val Glu Val
          115          120          125
Ile Gly Ile Val Gly Glu Val Pro Glu His Ile Thr Val Val Glu Lys
          130          135          140
Val Ala Asp Val Glu Ala Leu Pro Phe Ser Ser Asp Thr Pro Leu Phe
          145          150          155          160
Tyr Ile Thr Gln Thr Thr Leu Ser Leu Asp Asp Val Gln Glu Ile Ser
          165          170          175
Ser Ala Leu Leu Lys Arg Tyr Pro Ser Ile Ile Thr Leu Pro Ser Ser
          180          185          190
Ser Ile Cys Tyr Ala Thr Thr Asn Arg Gln Lys Ala Leu Arg Ser Val
          195          200          205
Leu Ser Arg Val Asn Tyr Val Tyr Val Val Gly Asp Val Asn Ser Ser
          210          215          220
Asn Ser Asn Arg Leu Arg Glu Val Ala Leu Arg Arg Gly Val Pro Ala
          225          230          235          240
Asp Leu Ile Asn Asn Pro Glu Asp Ile Asp Thr Asn Ile Val Asn His
          245          250          255
Ser Gly Asp Ile Ala Met Thr Ala Gly Ala Ser Thr Pro Glu Asp Val
          260          265          270
Val Gln Ala Cys Ile Arg Lys Leu Ser Ser Leu Ile Pro Gly Leu Gln
          275          280          285
Val Glu Asn Asp Ile Phe Ala Val Glu Asp Val Val Phe Gln Leu Pro
          290          295          300
Lys Glu Leu Arg Cys Ser
          305          310

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&lt;210&gt;1091

&lt;211&gt;245

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1091

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Arg Met Ser Tyr Phe Asn Tyr Gln Lys Asn Ser Val Val Leu Arg Ser
 1           5           10           15
Leu Gly Leu Leu Ala Lys Phe Phe Ser Arg Leu Leu Tyr Arg Val Phe
          20           25           30
Phe Ser Phe Arg Glu Gly Ile Tyr Leu Phe Ser Ser Leu Tyr Leu Lys
          35           40           45
Tyr Pro Arg Leu Phe Phe Tyr Asp Leu Gly Lys Tyr Val Tyr Ser Leu
          50           55           60
Arg His Cys Pro Tyr Ala Lys Leu Gly Arg Leu Pro Gly Ala Ser Leu
          65           70           75           80
Leu Lys Glu Gly Asn Val Tyr Gly Glu Thr Pro Trp Ser Val Leu Ala
          85           90           95
Lys Ile Cys Gln Ala Phe Asp Ile Thr Ser Gln Asp Ile Leu Tyr Asp
          100          105          110
Leu Gly Cys Gly Leu Gly Lys Val Cys Phe Trp Phe Ser His Val Val
          115          120          125
Arg Cys Gln Val Ile Gly Ile Asp Asn Gln Pro His Phe Ile Arg Phe
          130          135          140
Ser Ser Asn Met His Arg Lys Leu Ser Ser Gly Phe Ala Leu Phe Asp

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145          150          155          160
Thr Glu Glu Phe Lys Asn Val Val Leu Ser Gln Ala Ser Tyr Val Tyr
          165          170          175
Phe Tyr Gly Ser Ser Phe Ser Arg Arg Leu Leu Asn Glu Ile Ile Leu
          180          185          190
Lys Leu Ser Glu Met Ala Pro Gly Ser Val Val Ile Ser Ile Ser Phe
          195          200          205
Pro Leu Asp Ser Phe Ser Arg Gly Lys Glu Cys Phe Phe Thr Glu Lys
          210          215          220
Ser Cys Ser Val Arg Phe Pro Trp Gly Lys Thr Ile Ala Tyr Lys Asn
225          230          235          240
Ile Arg Lys Gly Ser
          245

<210>1092
<211>385
<212>PRT
<213>Chlamydia pneumoniae
<400>1092
Lys Ser Leu Ser Ala Glu Ser Thr Ser Ser Asn Ser Thr Gly Lys Ala
 1          5          10          15
Ser Thr Glu Thr Thr Ser Ser Ser Phe Pro Phe Phe Ser Cys Lys Ala
          20          25          30
Pro Glu Gly Asp Ser Ser Val Asp Lys Thr Phe Thr Val Ser Val Gln
          35          40          45
Thr Pro Lys Ala Gln Glu Gln Glu Ala Ser Ala Ser Gln Ser Gln
          50          55          60
Ala Gln Phe His Val Arg Ser Tyr Ser Ser Ser Thr Ile Lys Glu His
          65          70          75          80
Ser Ala Lys Glu Lys Val Ser Gln Ser Thr Lys Ser Ala Glu Thr Gln
          85          90          95
Lys His Thr Gln Thr Lys Ser Asp Ala Thr Leu Ser Pro Met Ser Leu
          100          105          110
Tyr Ser Thr Leu His Lys Glu Val Pro Gln Ala Leu Ser Ser Thr Lys
          115          120          125
Ser Gln Gln Lys Asp Glu Glu His Arg Asp Gln Arg Gln Gln Glu Gly
          130          135          140
Tyr Glu Gln Glu Gln Glu Gln Glu Glu Gly Lys Lys Lys Thr Pro Trp
145          150          155          160
Cys Thr Val Glu Ser Leu Gln Gln Thr Ser Ser Ser Asn Gln Val Tyr
          165          170          175
Glu Ser Tyr Thr Pro Ile Ile Pro Asp Pro Ile Val Glu Phe Ala Leu
          180          185          190
Ser Glu Ser Gln Leu Ser Val Leu Ala Gly Lys Arg Val Thr Asn Leu
          195          200          205
Asp Val Leu Arg Ile Cys Thr Glu Leu Met Lys Leu Met Leu Lys Ser
          210          215          220
Arg Ala Asn Asp Thr Met Thr Arg Leu Glu Glu Arg Glu Leu Met Glu
225          230          235          240
Arg Glu Ala His Glu Leu Ala Ala Ser Tyr Ser Arg Gln Ala Lys Tyr
          245          250          255
Ala Arg Trp Leu Gly Ile Ala Thr Ala Thr Leu Gly Ile Leu Gly Ala
          260          265          270
Ile Ala Pro Met Val Gly Glu Ile Ser Gly Asp Ser Ile Leu Gly Phe
          275          280          285
Val Gln Arg Ile Ser Gly Arg Phe Lys Asp Ala Thr Ala Lys Thr Phe
          290          295          300
Phe Lys Gly Ile Gly Lys Val Phe Thr Ser Leu Ser Gln Leu Thr Glu
305          310          315          320
Ala Ala Ser Lys Val His Glu Leu Ser Glu Ser Ala Val Arg Ala Val
          325          330          335
Ala Glu Tyr Arg Lys Glu Val Phe Arg Met Arg Gln Asp Glu Val Thr
          340          345          350
Arg Thr Ile Glu Glu Val Lys Asp Asn Trp Lys Ser Met Asp Asn Phe
          355          360          365

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Leu Leu Asn Ile Leu Gln Thr Glu His Asp Ala Ala Arg S Leu Tyr  
 370 375 380  
 Gln  
 385  
 <210>1093  
 <211>112  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1093  
 Ile His Arg Arg Xaa Ile Met Thr Val Ser Tyr Gln Ser Ile Ser Thr  
 1 5 10 15  
 Pro Pro Pro Glu Gly Glu Phe Asp Ile Phe Val Asp Gly Asn Ala Thr  
 20 25 30  
 Glu Glu Ala Val Val Ala Ala Glu Val Gln Val Ala Leu Pro Ala Gly  
 35 40 45  
 Glu Gln Tyr Ala Met Leu Arg Ala Thr Ser Glu Leu Cys Phe Gly Ile  
 50 55 60  
 Xaa Thr Gln Ser Glu Cys Ala Leu Thr Gln Ala Leu Pro Pro Lys Glu  
 65 70 75 80  
 Lys Thr Ile Thr Arg Arg Ala Ile Ser Ser Lys Lys Trp His Ile Asn  
 85 90 95  
 Ala Ile Asn Ile Ser Ala Glu Pro Lys Thr Arg Thr Ile Ala Ala Asp  
 100 105 110  
 <210>1094  
 <211>515  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1094  
 Cys Gly Asn Ser Thr Met Ser Ser Trp Leu Ser Gln Ala Ser Glu Val  
 1 5 10 15  
 Leu Leu Asn Gln Asp Pro Tyr Ile Pro Asp Ala Pro Arg Ser Gln Glu  
 20 25 30  
 Ser Ser Val Pro Lys Ile Ser Tyr Ser Ile Thr Val Ala Pro Gln Glu  
 35 40 45  
 Ala Gln Lys Ser Leu Pro Lys Phe Phe Thr Gln Lys Phe Gln Ser Gln  
 50 55 60  
 Cys Lys Ser Glu Pro Pro Ile Thr His His Lys Thr Phe Ile Ile Ala  
 65 70 75 80  
 Thr Pro Arg Glu Arg Ile Leu Arg Phe Gly Ser Ser Phe Glu Ser Gln  
 85 90 95  
 Leu His Asn Thr Ser Gln Ala Gln Thr Ser Ser Pro Trp Asn Leu Phe  
 100 105 110  
 Ser Gln Lys Asn Ser Thr Glu Ala Ser Lys Ala Leu Met Gln Glu Leu  
 115 120 125  
 Thr Met Pro Lys Ser Pro Glu Lys Thr Ser Glu Lys Ala Leu Asp Lys  
 130 135 140  
 Asn Leu Ser Ser Lys Gln Glu Gly Ser Cys Lys Asn Phe Asp Thr Leu  
 145 150 155 160  
 His Leu Gln Gln His Leu Lys Leu Phe Gly Thr Val Asp Ser Leu Tyr  
 165 170 175  
 Ser Gln Ser Leu Asp Ser Glu Gln Gln Glu Leu Leu Gln Ser Arg Arg  
 180 185 190  
 Glu Glu Arg Ser Glu Thr Tyr Ala Asn Gln Gln Ser Ser Glu Lys Lys  
 195 200 205  
 Ile Glu Thr Lys Val Gln Ile Lys Asp Leu Cys Lys Asp Leu Phe Ser  
 210 215 220  
 Gln Asp Gln Asp Ser Asn Gln Lys Gln Lys Lys Ser Pro Phe Gln Gln  
 225 230 235 240  
 Asp Thr Ser Arg Lys Asn Arg Ile Ala Lys Ala Ala Gln Ala Val Pro  
 245 250 255  
 Val Ile Pro Pro Pro Ser Ile Gly Val Phe Thr Leu Ser Tyr Leu Leu  
 260 265 270  
 Thr Lys Gln Gly Ile Leu Ser Asp Phe Ser Ser Tyr Gly Cys His Lys  
 275 280 285

Asp Ser Val Glu Thr Gln Arg Glu Leu Asp Ala Leu His Glu Lys  
 290 295 300  
 Arg Ile Glu Thr Ile Lys Val Ser Ile Glu Lys Glu Lys Arg Glu Arg  
 305 310 315 320  
 Leu Trp Gly Ser Leu Ser Asp Ile Ile Gly Trp Leu Ala Pro Phe Val  
 325 330 335  
 Ser Ile Gly Ile Gly Ile Val Ala Ile Leu Ser Gly Gly Gly Ile Phe  
 340 345 350  
 Ala Phe Ala Gly Phe Phe Ala Gly Leu Ile Ser Leu Val Ile Lys Cys  
 355 360 365  
 Leu Glu Lys Leu Lys Phe Trp Asp Trp Leu Glu Lys His Leu Pro Ile  
 370 375 380  
 Asn Asn Glu Glu Leu Arg Arg Lys Ile Ile Thr Ile Ile Gln Trp Val  
 385 390 395 400  
 Val Tyr Leu Thr Pro Val Ile Leu Ser Ile Cys Thr Leu Lys Val Glu  
 405 410 415  
 Asn Leu Gly Phe Ser Pro Ile Ile Glu Gly Ala Ile Lys Gly Ile Gln  
 420 425 430  
 Pro Ala Ile Glu Ser Thr Met Ala Ala Leu Arg Cys Ala Ile Leu Phe  
 435 440 445  
 Ser Gln Ala Glu Ile Tyr Lys Leu Lys Gly Lys Leu Thr Lys Ile Gln  
 450 455 460  
 Leu Asp Ile Glu Leu Lys Ser Phe Asp Arg Asp Asp His Tyr Glu Arg  
 465 470 475 480  
 Ser Gln Glu Leu Leu Asp Asn Met Glu Ser Ser Phe Glu Ala Leu Ser  
 485 490 495  
 Arg Ile Leu Asn Tyr Met Arg Glu Leu Asp Gln Val Tyr Leu His Ser  
 500 505 510  
 Leu Arg Gly  
 515

&lt;210&gt;1095

&lt;211&gt;191

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1095

Cys Ile Glu Val Ile Glu Arg Thr Tyr Gly His Leu His Leu Gln Pro  
 1 5 10 15  
 Thr Pro Leu Met Ser His Leu Asn Tyr Leu Leu Glu Lys Ile Ala Ala  
 20 25 30  
 Ser Ser Lys Glu Asp Phe Pro Phe Pro Asp Asp Leu Glu Ser Tyr Leu  
 35 40 45  
 Glu Gly Tyr Val Pro Asp Lys Asn Ile Ala Leu Asp Thr Tyr Gln Lys  
 50 55 60  
 Ile Phe Lys Ile Ser Ser Glu Asp Leu Glu Lys Val Tyr Lys Glu Gly  
 65 70 75 80  
 Tyr His Ala Tyr Leu Asp Lys Asp Tyr Ala Lys Ser Ile Thr Val Phe  
 85 90 95  
 Arg Trp Leu Val Phe Phe Asn Pro Phe Val Ser Lys Phe Trp Phe Ser  
 100 105 110  
 Leu Gly Ala Ser Leu His Met Ser Glu Gln Tyr Ser Gln Ala Leu His  
 115 120 125  
 Ala Tyr Gly Val Thr Ala Val Leu Arg Asp Lys Asp Pro Tyr Pro His  
 130 135 140  
 Tyr Tyr Ala Tyr Ile Cys Tyr Thr Leu Thr Asn Glu His Glu Glu Ala  
 145 150 155 160  
 Glu Lys Ala Leu Glu Met Ala Trp Val Arg Ala Gln His Lys Pro Leu  
 165 170 175  
 Tyr Asn Glu Leu Lys Glu Glu Ile Leu Asp Ile Arg Lys His Lys  
 180 185 190

&lt;210&gt;1096

&lt;211&gt;339

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1096

Thr Thr Ala Ser Ser Ser Asn Thr Lys Arg Leu Cys Cys Lys Lys Thr  
 1 5 10 15  
 Gln Arg Arg Pro Ser Pro Glu Thr Gln Ala Arg Ala Ser Leu Ser Gln  
 20 25 30  
 Ala Ser Ser Ser Ser Gln Arg Ser Leu Pro Pro Gln Glu Ser Ala Pro  
 35 40 45  
 Glu Arg Thr Leu Leu Glu Gln Gln Lys Ala Ser Ser Phe Ser Pro Leu  
 50 55 60  
 Ser Gln Phe Ser Ala Glu Lys Gln Lys Glu Ala Leu Thr Thr Ser Lys  
 65 70 75 80  
 Ser His Glu Leu Tyr Lys Glu Arg Asp Gln Asp Arg Gln Gln Arg Glu  
 85 90 95  
 Gln His Asp Arg Lys His Asp Gln Glu Asp Ala Glu Ser Lys Lys  
 100 105 110  
 Lys Lys Lys Lys Arg Gly Leu Gly Val Glu Ala Val Ala Glu Glu Pro  
 115 120 125  
 Gly Glu Asn Leu Asp Ile Ala Ala Leu Ile Phe Ser Asp Gln Met Arg  
 130 135 140  
 Pro Pro Ala Glu Glu Thr Ser Xaa Lys Glu Thr Thr Phe Lys Lys Lys  
 145 150 155 160  
 Leu Pro Ser Pro Met Ser Val Phe Ser Arg Phe Ile Pro Ser Lys Asn  
 165 170 175  
 Pro Leu Ser Val Gly Ser Ser Ile His Xaa Pro Ile Gln Thr Pro Lys  
 180 185 190  
 Val Glu Asn Val Phe Leu Arg Phe Met Lys Leu Met Ala Arg Ile Leu  
 195 200 205  
 Gly Gln Ala Glu Ala Glu Ala Asn Glu Leu Tyr Met Arg Val Lys Gln  
 210 215 220  
 Arg Thr Asp Asp Val Asp Thr Leu Thr Val Leu Ile Ser Lys Ile Asn  
 225 230 235 240  
 Asn Glu Lys Lys Asp Ile Asp Trp Ser Glu Asn Glu Glu Met Lys Ala  
 245 250 255  
 Leu Leu Asn Arg Ala Lys Glu Ile Gly Val Thr Ile Asp Lys Glu Lys  
 260 265 270  
 Tyr Thr Trp Thr Glu Glu Glu Lys Arg Leu Leu Lys Glu Asn Val Gln  
 275 280 285  
 Met Arg Lys Glu Asn Met Glu Lys Ile Thr Gln Met Glu Arg Thr Asp  
 290 295 300  
 Met Gln Arg His Leu Gln Glu Ile Ser Gln Cys His Gln Ala Arg Ser  
 305 310 315 320  
 Asn Val Leu Lys Leu Leu Lys Glu Leu Met Asp Thr Phe Ile Tyr Asn  
 325 330 335  
 Leu Arg Pro

&lt;210&gt;1097

&lt;211&gt;211

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1097

Phe Ser Phe Phe Phe Tyr Ala Leu Lys Leu Gln Ile Met Asn Met Pro  
 1 5 10 15  
 Val Pro Ser Ala Val Pro Ser Ala Asn Ile Thr Leu Lys Glu Asp Ser  
 20 25 30  
 Ser Thr Val Ser Thr Ala Ser Gly Ile Leu Lys Thr Ala Thr Gly Glu  
 35 40 45  
 Val Leu Val Ser Cys Thr Ala Leu Glu Gly Ser Ser Ser Thr Asp Ala  
 50 55 60  
 Leu Ile Ser Leu Ala Leu Gly Gln Ile Ile Leu Ala Thr Gln Gln Glu  
 65 70 75 80  
 Leu Leu Leu Gln Ser Thr Asn Val His Gln Leu Leu Phe Leu Pro Pro  
 85 90 95  
 Glu Val Val Glu Leu Glu Ile Gln Val Val Asp Leu Leu Val Gln Leu  
 100 105 110  
 Glu His Ala Glu Thr Ile Thr Ser Glu Pro Gln Glu Thr Gln Thr Gln

115 120  
 Ser Arg Ser Glu Gln Thr Leu Pro Gln Gln Ser Ser Ser Lys Gln Ser  
 130 135 140  
 Ala Leu Ser Pro Arg Ser Leu Lys Pro Glu Ile Ser Asp Ser Lys Gln  
 145 150 155 160  
 Gln Gln Ala Leu Gln Thr Pro Lys Asp Ser Ala Val Arg Lys His Ser  
 165 170 175  
 Glu Asp Arg His Leu Arg His Lys Leu Ala Leu Pro Tyr Leu Arg Gln  
 180 185 190  
 Ala Gln Val Leu Arg Asp Pro Tyr Leu Arg Lys Lys Val Arg Gln Lys  
 195 200 205  
 Glu His Tyr

210

<210>1098

<211>106

<212>PRT

<213>Chlamydia pneumoniae

<400>1098

Ile Phe Leu Glu Ile Phe Ile Met Lys Lys Val Val Thr Leu Ser Ile  
 1 5 10 15  
 Ile Phe Phe Ala Thr Tyr Cys Ala Ser Glu Leu Ser Ala Val Thr Val  
 20 25 30  
 Val Ala Val Pro Leu Ser Glu Ala Pro Gly Lys Ile Gln Val Arg Pro  
 35 40 45  
 Val Val Gly Leu Gln Phe Gln Glu Glu Gln Gly Ser Val Pro Tyr Ser  
 50 55 60  
 Phe Tyr Tyr Pro Tyr Asp Tyr Gly Tyr Tyr Tyr Pro Glu Thr Tyr Gly  
 65 70 75 80  
 Tyr Thr Lys Asn Thr Gly Gln Glu Ser Arg Glu Cys Tyr Thr Arg Phe  
 85 90 95  
 Glu Asp Gly Thr Ile Phe Tyr Glu Cys Asp  
 100 105

<210>1099

<211>301

<212>PRT

<213>Chlamydia pneumoniae

<400>1099

Met Thr Met Pro Ser Thr Gln Phe His Thr Thr Ile Leu Glu Gln Phe  
 1 5 10 15  
 Ser Leu Phe Leu Ser Val Asp Arg Gly Leu Cys Gln Gln Ser Ile Ala  
 20 25 30  
 Ala Tyr Arg Gln Asp Ile Ser Ser Phe Leu Thr Ile Ser Ala Ile Ser  
 35 40 45  
 Ser Pro Gln Asp Ile Ser Gln Asn Ser Val Tyr Ile Phe Ala Glu Glu  
 50 55 60  
 Leu Tyr Arg Arg Lys Glu Ala Glu Thr Thr Leu Ala Arg Arg Leu Ile  
 65 70 75 80  
 Ala Leu Lys Val Phe Phe Leu Phe Leu Lys Asp Gln Gln Leu Leu Pro  
 85 90 95  
 Tyr Pro Pro Ile Ile Glu His Pro Lys Ile Trp Lys Arg Leu Pro Ser  
 100 105 110  
 Val Leu Thr Pro Gln Glu Val Asp Ala Leu Leu Ala Val Pro Leu Gln  
 115 120 125  
 Met Glu Lys Asn Pro Arg His Leu Ala Phe Arg Asp Thr Ala Ile Leu  
 130 135 140  
 His Thr Leu Tyr Ser Thr Gly Val Arg Val Ser Glu Leu Cys Asp Leu  
 145 150 155 160  
 Arg Leu Gly His Val Ser Asp Asp Cys Ile Arg Val Thr Gly Lys Gly  
 165 170 175  
 Ser Lys Thr Arg Leu Val Pro Leu Gly Ser Arg Ala Arg Glu Ala Ile  
 180 185 190  
 Asp Ala Tyr Leu Cys Pro Phe Arg Asp Gln Tyr Gln Lys Lys Asn Pro  
 195 200 205  
 His Glu Asp His Leu Phe Leu Ser Thr Arg Gly His Lys Leu Glu Arg



210 215 220  
 Ser Cys Val Trp Arg Arg Ile His Asn Tyr Ala Lys Gln Val Thr Ser  
 225 230 235 240  
 Lys Pro Val Ser Pro His Ser Leu Arg His Ala Phe Ala Thr His Leu  
 245 250 255  
 Leu Asp Asn Lys Ala Asp Leu Arg Val Ile Gln Glu Met Leu Gly His  
 260 265 270  
 Ala Arg Ile Ala Ser Thr Glu Val Tyr Thr His Val Ala Ala Asp Ser  
 275 280 285  
 Leu Ile Glu Lys Phe Leu Ala His His Pro Arg Asn Leu  
 290 295 300  
 <210>1100  
 <211>553  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1100  
 Val Glu Gly Ile Val Ile Leu Ala Asn Glu Cys Asn Phe Ser Ile Gly  
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 Ser Gly Glu Phe Ser Ser Tyr Arg Glu Lys Thr Met Glu Arg Lys Arg  
 20 25 30  
 Phe Ile Asp Cys Asp Ser Thr Lys Ile Leu Gln Glu Leu Ala Leu Asn  
 35 40 45  
 Pro Leu Asp Leu Thr Ala Pro Gly Val Leu Ser Ala Glu Arg Ile Lys  
 50 55 60  
 Lys Phe Ser Leu Leu Gly Gly Gly Phe Thr Phe Ser Phe Ala Thr Glu  
 65 70 75 80  
 Arg Leu Asp Asp Ala Ile Leu Ala Ala Leu Ile Ser Leu Ala Glu Glu  
 85 90 95  
 Arg Gly Leu His Glu Ser Met Leu Ala Met Gln Gln Gly Gln Val Val  
 100 105 110  
 Asn Tyr Ile Glu Gly Phe Pro Ser Glu Met Arg Pro Ala Leu His Thr  
 115 120 125  
 Ala Thr Arg Ala Trp Val Thr Asp Ser Ser Phe Thr Gly Glu Ala Glu  
 130 135 140  
 Asp Ile Ala Val Arg Ser Arg Val Glu Ala Gln Arg Leu Lys Asp Phe  
 145 150 155 160  
 Leu Thr Lys Val Arg Ser Gln Phe Thr Thr Ile Val Gln Ile Gly Ile  
 165 170 175  
 Gly Gly Ser Glu Leu Gly Pro Lys Ala Leu Tyr Arg Ala Leu Arg Ala  
 180 185 190  
 Tyr Cys Pro Thr Asp Lys His Val His Phe Ile Ser Asn Ile Asp Pro  
 195 200 205  
 Asp Asn Gly Ala Glu Val Leu Asp Thr Ile Asp Cys Ala Lys Ala Leu  
 210 215 220  
 Val Val Val Val Ser Lys Ser Gly Thr Thr Ile Glu Thr Ala Val Asn  
 225 230 235 240  
 Glu Ala Phe Phe Ala Asp Tyr Phe Ala Lys Lys Gly Leu Ser Phe Lys  
 245 250 255  
 Asp His Phe Ile Ala Val Thr Cys Glu Gly Ser Pro Met Asp Asp Thr  
 260 265 270  
 Gly Lys Tyr Leu Glu Val Phe His Leu Trp Glu Ser Ile Gly Gly Arg  
 275 280 285  
 Phe Ser Ser Thr Ser Met Val Gly Gly Val Val Leu Gly Phe Ala Tyr  
 290 295 300  
 Gly Phe Glu Val Phe Leu Gln Leu Leu Gln Gly Ala Ser Ala Met Asp  
 305 310 315 320  
 Gln Ile Ala Leu Gln Pro Asn Ala Arg Glu Asn Leu Pro Met Leu Ser  
 325 330 335  
 Ala Leu Ile Ser Ile Trp Asn Arg Asn Phe Leu Gly Tyr Pro Thr Glu  
 340 345 350  
 Ala Val Ile Pro Tyr Ser Ser Gly Leu Glu Phe Phe Pro Ala His Leu  
 355 360 365  
 Gln Gln Cys Cys Met Glu Ser Asn Gly Lys Ser Ile Val Gln Asp Gly  
 370 375 380

Arg Arg Val Gly Ser Thr Ser Pro Val Ile Trp Gly Glu Pro Gly  
 385 390 395 400  
 Thr Asn Gly Gln His Ser Phe Phe Gln Cys Leu His Gln Gly Thr Asp  
 405 410 415  
 Ile Ile Pro Val Glu Phe Ile Gly Phe Glu Lys Ser Gln Lys Gly Glu  
 420 425 430  
 Asp Ile Ser Phe Gln Gly Thr Thr Ser Ser Gln Lys Leu Phe Ala Asn  
 435 440 445  
 Met Ile Ala Gln Ala Ile Ala Leu Ala Cys Gly Ser Glu Asn Thr Asn  
 450 455 460  
 Pro Asn Lys Asn Phe Asp Gly Asn Arg Pro Ser Ser Val Leu Val Ser  
 465 470 475 480  
 Ser Gln Leu Asn Pro Tyr Ser Leu Gly Glu Leu Leu Ser Tyr Tyr Glu  
 485 490 495  
 Asn Lys Ile Val Phe Gln Gly Phe Cys Trp Gly Ile Asn Ser Phe Asp  
 500 505 510  
 Gln Glu Gly Val Ser Leu Gly Lys Ala Leu Ala Asn Arg Val Leu Glu  
 515 520 525  
 Leu Leu Glu Gly Ala Asp Ala Ser Asn Phe Pro Glu Ala Ala Ser Leu  
 530 535 540  
 Leu Thr Leu Phe Asn Ile Lys Phe Arg  
 545 550  
 <210>1101  
 <211>523  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1101  
 Asn Met Pro Gly Ser Val Ser Ser Pro Pro Leu Ser Pro Val Ile Val  
 1 5 10 15  
 Arg Glu Arg Val Pro Ser Ser Ser Gly Ser Asp Leu Ile Gln Pro His  
 20 25 30  
 Ala Val Leu Lys Ile Ser Ile Leu Ile Phe Ala Leu Val Thr Ile Leu  
 35 40 45  
 Gly Ile Val Leu Val Val Ser Ala Leu Gly Ala Leu Pro Ser Leu  
 50 55 60  
 Val Leu Thr Val Ser Gly Cys Ile Ala Ile Ala Val Gly Leu Ile Gly  
 65 70 75 80  
 Leu Gly Ile Leu Val Thr Arg Leu Ile Leu Ser Thr Ile Arg Lys Val  
 85 90 95  
 Asp Ala Met Gly Tyr Asp Ala Ala Val Lys Glu Glu Gln Tyr Leu Ser  
 100 105 110  
 Arg Ile Arg Glu Leu Glu Ser Glu Asn Arg Glu Ile Arg Asp Arg Asn  
 115 120 125  
 Arg Ala Val Glu Asp Gln Cys Ala His Leu Ser Glu Glu Asn Lys Asp  
 130 135 140  
 Leu Arg Asp Pro Glu Tyr Leu His Gly Met Thr Glu Arg Leu Ile Ala  
 145 150 155 160  
 Ser Leu Glu Ile Glu Asn Gln Ala Leu Val Ala Glu Asn Ile Leu Leu  
 165 170 175  
 Lys Asp Trp Asn Ala Ser Leu Ser Arg Asp Phe Arg Ala Tyr Lys Gln  
 180 185 190  
 Lys Phe Pro Leu Gly Ala Leu Glu Pro Trp Lys Glu Asp Ile Ala Cys  
 195 200 205  
 Ile Met Glu Gln Asn Leu Phe Leu Lys Pro Glu Cys Ile Ala Met Val  
 210 215 220  
 Lys Ser Leu Pro Leu Glu Thr Gln Arg Leu Phe Leu Tyr Pro Lys Gly  
 225 230 235 240  
 Phe Gln Ser Leu Val Asn Arg Phe Ala Pro Arg Ser Arg Phe Phe Gln  
 245 250 255  
 Thr Pro Lys Tyr Glu Tyr Asn Ser Arg Asn Glu Asn Glu Asp Gly Lys  
 260 265 270  
 Val Ala Ala Val Cys Ala Arg Leu Lys Lys Glu Phe Phe Ser Ala Val  
 275 280 285  
 Leu Gly Ala Cys Ser Tyr Glu Glu Leu Gly Gly Ile Cys Glu Arg Ala

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      290      295      300
Val Ala Leu Lys Glu Thr Leu Pro Leu Pro Glu Ala Val Tyr Asp Thr
305      310      315
Leu Val Gln Glu Phe Pro Asn Leu Leu Thr Ala Glu Ser Leu Trp Lys
      325      330      335
Glu Trp Cys Phe Tyr Ser Tyr Pro Tyr Leu Arg Pro Tyr Leu Ser Val
      340      345      350
Asp Tyr Cys Lys Arg Leu Phe Val Gln Leu Phe Glu Glu Leu Cys Leu
      355      360      365
Lys Leu Phe Thr Thr Gly Ser Pro Glu Asp Gln Ala Leu Val Arg Leu
      370      375      380
Phe Ser Tyr Tyr Arg Asn His Ile Pro Ala Val Leu Ala Ser Phe Gly
385      390      395
Leu Pro Pro Pro Glu Thr Gly Gly Ser Val Phe Val Leu Leu Pro Lys
      405      410      415
Gln Glu Asn Leu Leu Trp Ser Gln Ile Glu Val Leu Ala Thr Arg Tyr
      420      425      430
Leu Lys Asp Thr Phe Val Arg Asn Ser Glu Trp Thr Gly Ser Phe Glu
      435      440      445
Met Met Phe Ser Tyr Asn Glu Met Cys Lys Glu Ile Ser Glu Gly Arg
450      455      460
Ile Arg Phe Ala Glu Asp Tyr Glu Thr Arg His Ser Glu Glu Phe Pro
465      470      475
Pro Ser Pro Leu Ser Glu Glu Gly Glu Gly Glu Glu Phe Leu Pro Pro
      485      490      495
Cys Ser Glu Glu Glu Val Ser Val Leu Glu Arg Pro Asp Leu Asp Val
      500      505      510
Asp Ser Met Trp Val Trp His Pro Ser Gly Pro
      515      520
<210>1102
<211>335
<212>PRT
<213>Chlamydia pneumoniae
<400>1102
Phe Phe Leu Lys Gly Val Arg Met Ala Phe Lys Glu Val Val Arg Val
1      5      10      15
Ala Val Thr Gly Gly Lys Gly Gln Ile Ala Tyr Asn Phe Leu Phe Ala
      20      25      30
Leu Ala His Gly Asp Val Phe Gly Val Asp Arg Gly Val Asp Leu Arg
      35      40      45
Ile Tyr Asp Val Pro Gly Thr Glu Arg Ala Leu Ser Gly Val Arg Met
      50      55      60
Glu Leu Asp Asp Gly Ala Tyr Pro Leu Xaa His Arg Leu Arg Val Thr
      65      70      75      80
Thr Ser Leu Asn Asp Ala Phe Asp Gly Ile Asp Ala Ala Phe Leu Ile
      85      90      95
Gly Ala Val Pro Arg Gly Pro Gly Met Glu Arg Gly Asp Leu Leu Lys
      100      105      110
Gln Asn Gly Gln Ile Phe Ser Leu Gln Gly Ala Ala Leu Asn Thr Ala
      115      120      125
Ala Lys Arg Asp Ala Lys Ile Phe Val Val Gly Asn Pro Val Asn Thr
      130      135      140
Asn Cys Trp Ile Ala Met Lys His Ala Pro Arg Leu His Arg Lys Asn
145      150      155      160
Phe His Ala Met Leu Arg Leu Asp Gln Asn Arg Met His Ser Met Leu
      165      170      175
Ala His Arg Ala Glu Val Pro Leu Glu Glu Val Ser Arg Val Val Ile
      180      185      190
Trp Gly Asn His Ser Ala Lys Gln Val Pro Asp Phe Thr Gln Ala Arg
      195      200      205
Ile Ser Gly Lys Pro Ala Ala Glu Val Ile Gly Asp Arg Asp Trp Leu
210      215      220
Glu Asn Ile Leu Val His Ser Val Gln Asn Arg Gly Ser Ala Val Ile
225      230      235      240

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Glu Ala Arg Gly Ser Ser Ala Ala Ser Ala Ser Ala Ala Leu Ala  
 245 250 255  
 Glu Ala Ala Arg Ser Ile Phe Cys Pro Lys Ser Asp Glu Trp Phe Ser  
 260 265 270  
 Ser Gly Val Cys Ser Asp His Asn Pro Tyr Gly Ile Pro Glu Asp Leu  
 275 280 285  
 Ile Phe Gly Phe Pro Cys Arg Met Leu Pro Ser Gly Asp Tyr Glu Ile  
 290 295 300  
 Ile Pro Gly Leu Pro Trp Glu Pro Phe Ile Arg Asn Lys Ile Gln Ile  
 305 310 315 320  
 Ser Leu Asp Glu Ile Ala Gln Glu Lys Ala Ser Val Ser Ser Leu  
 325 330 335

&lt;210&gt;1103

&lt;211&gt;82

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1103

Ser Glu His Thr Pro Glu Glu Asn His Ser Ser Leu Leu Gly Gln Lys  
 1 5 10 15  
 Ile Asp Arg Ala Ala Ser Ala Ser Ala Arg Asp Ala Asp Ala Ala Glu  
 20 25 30  
 Asp Phe Pro Leu Ala Ser Ile Thr Ala Leu Pro Arg Phe Cys Thr Glu  
 35 40 45  
 Cys Thr Lys Met Phe Ser Asn Gln Ser Arg Ser Pro Ile Thr Ser Ala  
 50 55 60  
 Ala Gly Phe Pro Glu Ile Arg Ala Cys Val Lys Ser Gly Thr Cys Phe  
 65 70 75 80  
 Ala Glu

&lt;210&gt;1104

&lt;211&gt;275

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1104

Ser Xaa Cys Ala Ser Lys Ala Leu Asn Val Pro Ile Val Ile Ser Gln  
 1 5 10 15  
 Gly Ile Leu Arg Pro Ala Ile Asp Glu Asp Gln Ala Gln Leu Phe Thr  
 20 25 30  
 Glu Arg Val Glu Glu Phe Pro Lys Glu Val Glu Trp Trp Glu Xaa Ala  
 35 40 45  
 Arg Cys Glu Ile Ser Ile Pro Ser Met Val Ile Pro Pro Asn Leu Gly  
 50 55 60  
 Ala Leu Phe Ile Lys Ser Gly Val Thr Leu Asn Asn Asp Leu Tyr Ile  
 65 70 75 80  
 Gln Gly Leu Ala Asp Ala Cys Met Lys Leu Gly Thr Gln Phe Tyr Asp  
 85 90 95  
 Glu Leu Ile Glu Asp Leu Ala Asp Ile Glu Glu Phe Tyr Asp His Ile  
 100 105 110  
 Ile Val Thr Pro Gly Ala Asn Ala Ser Ile Leu Pro Glu Leu Lys Asp  
 115 120 125  
 Met Pro Val Asn Lys Val Lys Gly Gln Leu Leu Glu Ile Ser Trp Pro  
 130 135 140  
 Lys Asp Leu Ala Met Leu Ser Phe Ser Ile Asn Ala His Lys Tyr Met  
 145 150 155 160  
 Val Ala Asn Thr Gln Lys Asn Thr Cys Ile Leu Gly Ala Thr Phe Glu  
 165 170 175  
 His Asn Gln Pro Glu Glu Thr Pro Asp Pro Ala Ile Ala Tyr Gln Glu  
 180 185 190  
 Ile Met Pro Pro Val Leu Ser Leu Phe Pro Gly Leu Lys Asp Ala Gln  
 195 200 205  
 Val Leu His Cys Tyr Ala Gly Met Arg Ser Ser Ser Lys Ser Arg Leu  
 210 215 220  
 Pro Val Ile Ser Arg Ile Arg Glu Lys Leu Trp Phe Leu Gly Gly Leu  
 225 230 235 240

Gly Ser Lys Gly Leu Leu Tyr His Gly Ile Thr Gly Asp Met Leu Ala  
 245 250 255  
 Gln Ala Val Leu Arg Lys Ser Thr Ala Tyr Ile Ala Lys Glu Phe Leu  
 260 265 270  
 Phe Thr Ile  
 275

&lt;210&gt;1105

&lt;211&gt;485

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1105

Met Thr Ser Arg Thr Lys Ser Ser Lys Asn Leu Gly Thr Ile Ala Leu  
 1 5 10 15  
 Ala Gly Met Val Val Ser Ser Ile Ile Gly Gly Gly Ile Phe Ser Leu  
 20 25 30  
 Pro Gln Asn Met Ala Ala Thr Ala Gly Ala Gly Ala Val Ile Leu Ser  
 35 40 45  
 Trp Ile Leu Thr Gly Phe Gly Met Phe Phe Ile Ala Asn Thr Phe Arg  
 50 55 60  
 Ile Leu Ser Thr Ile Arg Pro Asp Leu Lys Glu Gly Ile Tyr Met Tyr  
 65 70 75 80  
 Ser Arg Glu Gly Phe Gly Pro Tyr Ile Gly Phe Thr Ile Gly Trp Gly  
 85 90 95  
 Tyr Trp Leu Cys Gln Ile Phe Gly Asn Val Gly Tyr Ala Val Ile Thr  
 100 105 110  
 Met Asp Ala Leu Asn Tyr Phe Phe Pro Pro Tyr Phe Gln Gly Gly Asn  
 115 120 125  
 Thr Leu Pro Ala Ile Leu Gly Gly Ser Ile Leu Ile Trp Val Phe Asn  
 130 135 140  
 Phe Ile Val Leu Lys Gly Ile Arg Gln Ala Ser Ile Ile Asn Val Ile  
 145 150 155 160  
 Gly Thr Ile Phe Lys Ile Ile Pro Leu Ile Ile Phe Ile Ile Leu Thr  
 165 170 175  
 Ala Phe Phe Phe Lys Leu Ala Val Phe Lys Thr Asp Phe Trp Gly His  
 180 185 190  
 Ala Val Thr Lys Ala Gln Pro Ser Leu Gly Ser Val Ser Ser Gln Leu  
 195 200 205  
 Lys Gly Thr Met Leu Val Thr Leu Trp Ala Phe Ile Gly Ile Glu Gly  
 210 215 220  
 Ala Val Val Met Ser Gly Arg Ala Lys Asn Pro Leu Ser Val Gly Gln  
 225 230 235 240  
 Ala Thr Val Leu Gly Phe Leu Gly Cys Leu Thr Ile Tyr Ile Leu Phe  
 245 250 255  
 Ser Leu Leu Pro Phe Gly Ser Leu Phe Gln His Gln Leu Ala Asn Ile  
 260 265 270  
 Pro Asn Pro Ser Thr Ala Gly Val Leu Asp Ile Leu Val Gly Lys Trp  
 275 280 285  
 Gly Glu Val Leu Met Asn Val Gly Leu Ile Ile Ala Val Leu Ser Ser  
 290 295 300  
 Trp Leu Ser Trp Thr Ile Ile Val Ala Glu Ile Pro Phe Ser Ala Ala  
 305 310 315 320  
 Lys Asn Gly Thr Phe Pro Glu Ile Phe Thr Ile Glu Asn Lys Glu Lys  
 325 330 335  
 Ser Pro Ser Val Ser Leu Tyr Ile Thr Ser Ser Val Met Gln Leu Ala  
 340 345 350  
 Met Leu Leu Val Tyr Phe Ser Ser Asn Ala Trp Asn Thr Met Leu Ser  
 355 360 365  
 Ile Thr Gly Val Met Val Leu Pro Ala Tyr Leu Ala Ser Ala Ala Phe  
 370 375 380  
 Leu Phe Lys Leu Ser Lys Ser Lys Thr Tyr Pro Lys Lys Gly Ser Ile  
 385 390 395 400  
 Lys Ala Pro Leu Ala Met Ile Thr Gly Ile Leu Gly Val Val Tyr Ser  
 405 410 415  
 Leu Trp Leu Ile Tyr Ala Gly Gly Leu Lys Tyr Leu Phe Met Ala Leu

420 425 430  
 Val Leu Leu Ala Leu Gly Ile Pro Phe Tyr Ile Asp Ala Gly Lys Lys  
 435 440 445  
 Lys Lys Asn Ala Lys Thr Phe Phe Ala Lys Lys Glu Ile Val Gly Met  
 450 455 460  
 Thr Phe Ile Gly Leu Leu Ala Leu Thr Ala Ile Phe Leu Phe Ser Thr  
 465 470 475 480  
 Gly Arg Ile Lys Ile  
 485

&lt;210&gt;1106

&lt;211&gt;196

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1106

Leu Met Ala Tyr Gly Thr Arg Tyr Pro Thr Leu Ala Phe His Thr Gly  
 1 5 10 15  
 Gly Ile Gly Glu Ser Asp Asp Gly Met Pro Pro Gln Pro Phe Glu Thr  
 20 25 30  
 Phe Cys Tyr Asp Ser Ala Leu Leu Gln Ala Lys Ile Glu Asn Phe Asn  
 35 40 45  
 Ile Val Pro Tyr Thr Ser Val Leu Pro Lys Glu Leu Phe Gly Asn Ile  
 50 55 60  
 Val Pro Val Asp Thr Cys Val Lys Ser Phe Lys His Gly Ala Val Leu  
 65 70 75 80  
 Glu Val Ile Met Ala Gly Arg Gly Ala Ala Leu Ser Asp Gly Thr His  
 85 90 95  
 Ala Ile Ala Thr Gly Ile Gly Ile Cys Trp Gly Lys Asp Lys Asn Gly  
 100 105 110  
 Glu Leu Ile Gly Gly Trp Ala Ala Glu Tyr Val Glu Phe Phe Pro Thr  
 115 120 125  
 Trp Ile Asn Asp Glu Ile Ala Glu Thr His Ala Lys Met Trp Leu Lys  
 130 135 140  
 Lys Ser Leu Gln His Glu Leu Asp Leu Arg Ser Ile Ala Lys His Ser  
 145 150 155 160  
 Glu Phe Gln Phe Phe His Asn Tyr Ile Asn Ile Lys Gln Lys Phe Gly  
 165 170 175  
 Phe Cys Leu Thr Ala Leu Gly Phe Leu Asn Phe Glu Asn Ala Glu Pro  
 180 185 190  
 Ala Lys Val Asn  
 195

&lt;210&gt;1107

&lt;211&gt;165

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1107

Gln Lys Ala Thr Tyr Asn Phe Tyr Gly Tyr Ala Ser Trp Thr Pro Lys  
 1 5 10 15  
 Pro Ser Cys Gly Asp Gly Gln Tyr Ser Val Leu Leu Tyr Ser Thr Arg  
 20 25 30  
 Lys Val Pro Glu Gln Asn Ser Gln Val Thr Gly Trp Ser Leu Asn Ala  
 35 40 45  
 Ala Gln His Ile His Glu Lys Leu Tyr Leu Phe Gly Arg Ile Asn Gly  
 50 55 60  
 Ala Thr Gly Thr Ala Leu Pro Ile Asn Arg Ser Tyr Val Leu Gly Leu  
 65 70 75 80  
 Val Ser Glu Asn Pro Leu Asn Arg His Ser Gln Asp Leu Leu Gly Ile  
 85 90 95  
 Gly Phe Ala Thr Asn Lys Val Asn Ala Lys Ala Ile Ser Asn Val Asn  
 100 105 110  
 Lys Leu Arg Arg Tyr Glu Ser Val Met Glu Ala Phe Ala Thr Ile Gly  
 115 120 125  
 Phe Gly Pro Tyr Ile Ser Leu Thr Pro Asp Phe Gln Leu Tyr Ile His  
 130 135 140  
 Pro Ala Leu Arg Pro Glu Arg Arg Thr Ser Gln Val Tyr Gly Leu Arg

145 155 160  
Ala Asn Leu Ser Leu  
165  
<210>1108  
<211>354  
<212>PRT  
<213>Chlamydia pneumoniae  
<400>1108  
Asn Asn Lys Lys Lys Asp Tyr Ser Gly Glu Phe Leu Thr Thr Asp Thr  
1 5 10 15  
Val Asp Ser Ile Ala Phe Leu Ser Ser Glu Glu Asn Phe Cys Tyr Ile  
20 25 30  
Lys Thr Ile Leu Phe Phe Arg Val Lys Lys Lys His Tyr Ala Phe Phe  
35 40 45  
Tyr Gly Glu Phe Met Ile Xaa Phe Arg Phe Leu Leu Ser Gly Leu  
50 55 60  
Cys Ala Leu Gly Ile Ser Tyr Ala Glu Thr Pro Lys Glu Thr Thr  
65 70 75 80  
Gly His Tyr His Arg Tyr Lys Ala Arg Ile Gln Lys Lys His Pro Glu  
85 90 95  
Ser Ile Lys Glu Ser Ala Pro Ser Glu Thr Pro His His Asn Ser Leu  
100 105 110  
Leu Ser Pro Val Thr Asn Ile Phe Cys Ser His Pro Trp Lys Asp Gly  
115 120 125  
Ile Ser Val Ser Asn Leu Leu Thr Ser Val Glu Lys Ala Thr Asn Thr  
130 135 140  
Gln Ile Ser Leu Asp Phe Ser Ile Leu Pro Gln Trp Phe Tyr Pro His  
145 150 155 160  
Lys Ala Leu Gly Gln Thr Gln Ala Leu Glu Ile Pro Ser Trp Gln Phe  
165 170 175  
Tyr Phe Ser Pro Ser Thr Thr Trp Thr Leu Tyr Asp Ser Pro Thr Ala  
180 185 190  
Gly Gln Gly Ile Val Asp Phe Ser Tyr Thr Leu Ile His Tyr Trp Gln  
195 200 205  
Thr Asn Gly Val Asp Ala Asn Gln Ala Ala Gly Thr Ala Ser Ser Met  
210 215 220  
Asn Asp Tyr Ser Asn Arg Glu Asn Asn Leu Ala Gln Leu Thr Phe Ser  
225 230 235 240  
Gln Thr Phe Pro Gly Asp Phe Leu Thr Leu Ala Ile Gly Gln Tyr Ser  
245 250 255  
Leu Tyr Ala Ile Asp Gly Thr Leu Tyr Asp Asn Asp Gln Tyr Ser Gly  
260 265 270  
Phe Ile Ser Tyr Ala Leu Ser Gln Asn Ala Ser Ala Thr Tyr Ser Leu  
275 280 285  
Gly Ser Thr Gly Ala Tyr Leu Gln Phe Thr Pro Asn Ser Glu Ile Lys  
290 295 300  
Val Gln Leu Gly Phe Gln Asp Ser Tyr Asn Ile Asp Gly Thr Asn Phe  
305 310 315 320  
Ser Ile Tyr Asn Leu Thr Lys Ser Asn Ile Gln Leu Leu Arg Leu Arg  
325 330 335  
Leu Leu Asp Ser Lys Thr Phe Val Trp Arg Trp Thr Val Leu Cys Ile  
340 345 350  
Ala Leu

<210>1109  
<211>286  
<212>PRT  
<213>Chlamydia pneumoniae  
<400>1109  
Lys Thr Ser Trp Gln Lys Tyr Lys Lys Tyr Leu Ser Tyr Ser Ile Leu  
1 5 10 15  
Val Gln Lys Ile Ala Arg Tyr Val Met Lys Thr Trp Leu Phe Phe Thr  
20 25 30  
Phe Leu Phe Ser Cys Ser Ser Phe Tyr Ala Ser Cys Arg Tyr Ala Glu

35 40  
 Val Arg Ser Ile His Glu Val Ala Gly Asp Ile Leu Tyr Asp Glu Glu  
 50 55 60  
 Asn Phe Trp Leu Ile Leu Asp Leu Asp Asp Thr Leu Leu Gln Gly Gly  
 65 70 75 80  
 Glu Ala Leu Ser His Ser Ile Trp Lys Ser Lys Ala Ile Gln Gly Leu  
 85 90 95  
 Gln Lys Gln Gly Thr Pro Glu Gln Glu Ala Trp Glu Ala Val Val Pro  
 100 105 110  
 Phe Trp Ile Glu Ile Gln Glu Met Gly Thr Val Gln Pro Ile Glu Ser  
 115 120 125  
 Ala Ile Phe Leu Leu Ile Glu Lys Ile Gln Lys Gln Gly Lys Thr Thr  
 130 135 140  
 Phe Val Tyr Thr Glu Arg Pro Lys Thr Ala Lys Asp Leu Thr Leu Lys  
 145 150 155 160  
 Gln Leu His Met Leu Asn Val Ser Leu Glu Asp Thr Ala Pro Gln Pro  
 165 170 175  
 Gln Ala Pro Leu Pro Lys Asn Leu Leu Tyr Thr Ser Gly Ile Leu Phe  
 180 185 190  
 Ser Gly Asp Tyr His Lys Gly Pro Gly Leu Asp Leu Phe Leu Glu Ile  
 195 200 205  
 Cys Thr Pro Leu Pro Ala Lys Ile Ile Tyr Ile Asp Asn Gln Lys Glu  
 210 215 220  
 Asn Val Leu Arg Ile Gly Asp Leu Cys Gln Lys Tyr Gly Ile Ala Tyr  
 225 230 235 240  
 Phe Gly Ile Thr Tyr Lys Ala Gln Glu Leu His Pro Pro Ile Tyr Phe  
 245 250 255  
 Asp Asn Ile Ala Gln Val Gln Tyr Asn Tyr Ser Lys Lys Leu Leu Ser  
 260 265 270  
 Asn Glu Ala Ala Ala Leu Leu Leu Arg His Gln Met His Glu  
 275 280 285

&lt;210&gt;1110

&lt;211&gt;504

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1110

Val Val Gln Leu Pro Leu Met Val Pro Ile Val His Leu Gln Ile Trp  
 1 5 10 15  
 Arg Phe Ser Met Ile Tyr Tyr Gly Val Ser Val Met Leu Cys Ala Thr  
 20 25 30  
 Val Ser Gly Pro Ser Phe Cys Glu Ala Lys Gln Gln Ile Leu Lys Ser  
 35 40 45  
 Leu His Leu Val Asp Ile Ile Glu Leu Arg Leu Asp Leu Ile Asn Glu  
 50 55 60  
 Leu Asp Asp Gln Glu Leu His Thr Leu Ile Thr Thr Ala Gln Asn Pro  
 65 70 75 80  
 Ile Leu Thr Phe Arg Gln His Lys Glu Met Ser Thr Ala Leu Trp Ile  
 85 90 95  
 Gln Lys Leu Tyr Ser Leu Ala Lys Leu Glu Pro Lys Trp Met Asp Ile  
 100 105 110  
 Asp Val Ser Leu Pro Lys Thr Ala Leu Gln Thr Ile Arg Lys Ser His  
 115 120 125  
 Pro Lys Ile Lys Leu Ile Leu Ser Tyr His Thr Asp Lys Asn Glu Asp  
 130 135 140  
 Leu Asp Ala Ile Tyr Asn Glu Met Leu Ala Thr Pro Ala Glu Ile Tyr  
 145 150 155 160  
 Lys Ile Val Leu Ser Pro Glu Asn Ser Ser Glu Ala Leu Asn Tyr Ile  
 165 170 175  
 Lys Lys Ala Arg Leu Leu Pro Lys Pro Ser Thr Val Leu Cys Met Gly  
 180 185 190  
 Thr His Gly Leu Pro Ser Arg Val Leu Ser Pro Leu Ile Ser Asn Ala  
 195 200 205  
 Met Asn Tyr Ala Ala Gly Ile Ser Ala Pro Gln Val Ala Pro Gly Gln  
 210 215 220



Pro Lys Leu Glu Glu Leu Leu Ser Tyr Asn Tyr Ser Lys Leu Ser Glu  
 225 230 235 240  
 Lys Ser His Ile Tyr Gly Leu Ile Gly Asp Pro Val Asp Arg Ser Ile  
 245 250 255  
 Ser His Leu Ser His Asn Phe Leu Leu Ser Lys Leu Ser Leu Asn Ala  
 260 265 270  
 Thr Tyr Ile Lys Phe Pro Val Thr Ile Gly Glu Val Val Thr Phe Phe  
 275 280 285  
 Ser Ala Ile Arg Asp Leu Pro Phe Ser Gly Leu Ser Val Thr Met Pro  
 290 295 300  
 Leu Lys Thr Ala Ile Phe Asp His Val Asp Ala Leu Asp Ala Ser Ala  
 305 310 315 320  
 Gln Leu Cys Glu Ser Ile Asn Thr Leu Val Phe Arg Asn Gln Lys Ile  
 325 330 335  
 Leu Gly Tyr Asn Thr Asp Gly Glu Gly Val Ala Lys Leu Leu Lys Gln  
 340 345 350  
 Lys Asn Ile Ser Val Asn Asn Lys His Ile Ala Ile Val Gly Ala Gly  
 355 360 365  
 Gly Ala Ala Lys Ala Ile Ala Ala Thr Leu Ala Met Gln Gly Ala Asn  
 370 375 380  
 Leu His Ile Phe Asn Arg Thr Leu Ser Ser Ala Ala Ala Leu Ala Thr  
 385 390 395 400  
 Cys Cys Lys Gly Lys Ala Tyr Pro Leu Gly Ser Leu Glu Asn Phe Lys  
 405 410 415  
 Thr Ile Asp Ile Ile Ile Asn Cys Leu Pro Pro Glu Val Thr Phe Pro  
 420 425 430  
 Trp Arg Phe Pro Pro Ile Val Met Asp Ile Asn Thr Lys Pro His Pro  
 435 440 445  
 Ser Pro Tyr Leu Glu Arg Ala Gln Lys His Gly Ser Leu Ile Ile His  
 450 455 460  
 Gly Tyr Glu Met Phe Ile Glu Gln Ala Leu Leu Gln Phe Ala Leu Trp  
 465 470 475 480  
 Phe Pro Asp Phe Leu Thr Pro Glu Ser Cys Asp Ser Phe Arg Asn Tyr  
 485 490 495  
 Val Lys Asn Phe Met Ala Lys Val  
 500

&lt;210&gt;1111

&lt;211&gt;384

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1111

Met Leu Gln Thr Ile Met Ser Glu Thr Ile Ile Thr Thr Pro His Val  
 1 5 10 15  
 Val Lys Leu Ile Ser Asn Phe Phe Gln Lys Lys Leu Phe Ser Ser Ile  
 20 25 30  
 Ser Thr Ala Tyr Pro Leu Val Ile Ile Thr Asp Val Ser Val Gln Gln  
 35 40 45  
 His Leu Leu Gly Pro Ile Leu Asp His Ile Lys Met Leu Gly Tyr Gln  
 50 55 60  
 Val Ile Val Leu Thr Phe Pro Pro Gly Glu Pro Asn Lys Thr Trp Glu  
 65 70 75 80  
 Thr Phe Ile Ser Leu Gln Tyr Gln Leu Val Asp Gln Asn Ile Ser Pro  
 85 90 95  
 Lys Ser Ser Ile Ile Gly Ile Gly Gly Gly Thr Val Leu Asp Met Thr  
 100 105 110  
 Gly Phe Leu Ala Ala Thr Tyr Cys Arg Gly Leu Pro Leu Tyr Leu Ile  
 115 120 125  
 Pro Thr Thr Ile Thr Ala Met Val Asp Thr Ser Ile Gly Gly Lys Asn  
 130 135 140  
 Gly Ile Asn Leu Arg Gly Ile Lys Asn Arg Leu Gly Thr Phe Tyr Leu  
 145 150 155 160  
 Pro Lys Glu Val Trp Met Cys Pro Gln Phe Leu Ser Thr Leu Pro Arg  
 165 170 175  
 Glu Glu Trp Tyr His Gly Ile Ala Glu Ala Ile Lys His Gly Phe Ile

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      180      185      190
Ala Asp Ala Tyr Leu Trp Glu Phe Leu Asn Ser His Ser Lys Met Leu
      195      200      205
Phe Ser Ser Ser Gln Ile Leu His Glu Phe Ile Lys Arg Asn Cys Gln
      210      215      220
Ile Lys Ala Ala Ile Val Ala Glu Asp Pro Tyr Asp Arg Ser Leu Arg
      225      230      235      240
Lys Ile Leu Asn Phe Gly His Ser Ile Ala His Ala Ile Glu Thr Leu
      245      250      255
Ala Lys Gly Thr Val Asn His Gly Gln Ala Val Ser Val Gly Met Met
      260      265      270
Ile Glu Thr Arg Ile Ser Leu Ala Glu Gly Val Met Lys Thr Pro Gln
      275      280      285
Leu Ile Asp Gln Leu Glu Arg Leu Leu Lys Arg Phe Asn Leu Pro Ser
      290      295      300
Thr Leu Lys Asp Leu Gln Ser Ile Val Pro Glu His Leu His Asn Ser
      305      310      315      320
Leu Tyr Ser Pro Glu Asn Ile Ile Tyr Thr Leu Gly Tyr Asp Lys Lys
      325      330      335
Asn Leu Ser Gln His Glu Leu Lys Met Ile Met Ile Glu His Leu Gly
      340      345      350
Arg Ala Ala Pro Phe Asn Gly Thr Tyr Cys Ala Ser Pro Asn Met Glu
      355      360      365
Ile Leu Tyr Asp Ile Leu Trp Ser Glu Cys His Val Met Arg His Cys
      370      375      380
<210>1112
<211>376
<212>PRT
<213>Chlamydia pneumoniae
<400>1112
Thr Ser Val Ser Arg Ser His Tyr Leu Val Lys Val Met Lys Asn Ser
  1      5      10      15
Phe Gly Ser Leu Phe Ser Phe Thr Thr Trp Gly Glu Ser His Gly Pro
      20      25      30
Ser Ile Gly Val Val Ile Asp Gly Cys Pro Ala Gly Leu Glu Leu His
      35      40      45
Glu Ser Asp Phe Val Pro Ala Met Lys Arg Arg Arg Pro Gly Asn Pro
      50      55      60
Gly Thr Ser Ser Arg Lys Glu Asn Asp Ile Val Gln Ile Leu Ser Gly
      65      70      75      80
Val Tyr Lys Gly Lys Thr Thr Gly Thr Pro Leu Ser Leu Gln Ile Leu
      85      90      95
Asn Thr Asp Val Asp Ser Ser Pro Tyr Glu Asn Ser Glu Arg Leu Tyr
      100      105      110
Arg Pro Gly His Ser Gln Tyr Thr Tyr Glu Lys Lys Phe Gly Ile Val
      115      120      125
Asp Pro Asn Gly Gly Gly Arg Ser Ser Ala Arg Glu Thr Ala Cys Arg
      130      135      140
Val Ala Ala Gly Val Val Ala Glu Lys Phe Leu Ala Asn Gln Asn Ile
      145      150      155      160
Phe Thr Leu Ala Tyr Leu Ser Ser Leu Gly Ser Leu Thr Leu Pro His
      165      170      175
Tyr Leu Lys Ile Ser Pro Glu Leu Ile His Lys Ile His Thr Ser Pro
      180      185      190
Phe Tyr Ser Pro Leu Pro Asn Glu Lys Ile Gln Glu Ile Leu Thr Ser
      195      200      205
Leu His Asp Asp Ser Asp Ser Leu Gly Gly Val Ile Ser Phe Ile Thr
      210      215      220
Ser Pro Ile His Asp Phe Leu Gly Glu Pro Leu Phe Gly Lys Val His
      225      230      235      240
Ala Leu Leu Ala Ser Ala Leu Met Ser Ile Pro Ala Ala Lys Gly Phe
      245      250      255
Glu Ile Gly Lys Gly Phe Ala Ser Ala Gln Met Arg Gly Ser Gln Tyr
      260      265      270

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Thr Asp Pro Phe Val Met Glu Gly Glu Asn Ile Thr Leu Lys Arg Asn  
 275 280 285  
 Asn Cys Gly Gly Thr Leu Gly Gly Ile Thr Ile Gly Val Pro Ile Glu  
 290 295 300  
 Gly Arg Ile Ala Phe Lys Pro Thr Ser Ser Ile Lys Arg Pro Cys Ala  
 305 310 315 320  
 Thr Val Thr Lys Thr Lys Lys Glu Thr Thr Tyr Arg Thr Pro Gln Thr  
 325 330 335  
 Gly Arg His Asp Pro Cys Val Ala Ile Arg Ala Val Pro Val Val Glu  
 340 345 350  
 Ala Met Ile Asn Leu Val Leu Ala Asp Leu Val Leu Tyr Gln Arg Cys  
 355 360 365  
 Ser Lys Leu Ser Cys Gln Arg Gln  
 370 375

&lt;210&gt;1113

&lt;211&gt;184

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1113

Trp Lys Leu Glu Leu Arg Asn Val Met Thr Ile Ile Leu Cys Gly Leu  
 1 5 10 15  
 Pro Thr Ser Gly Lys Ser Ser Leu Gly Lys Ala Leu Ala Lys Phe Leu  
 20 25 30  
 Asn Leu Pro Phe Tyr Asp Leu Asp Asp Leu Ile Val Ser Asn Tyr Ser  
 35 40 45  
 Ser Ala Leu Tyr Ser Ser Ser Ala Glu Ile Tyr Lys Ala Tyr Gly Asp  
 50 55 60  
 Gln Lys Phe Ser Glu Cys Glu Ala Arg Ile Leu Glu Thr Leu Pro Pro  
 65 70 75 80  
 Glu Asp Ala Leu Ile Ser Leu Gly Gly Gly Thr Leu Met Tyr Glu Ala  
 85 90 95  
 Ser Tyr Arg Ala Ile Gln Thr Arg Gly Ala Leu Val Phe Leu Ser Val  
 100 105 110  
 Glu Leu Pro Leu Ile Tyr Glu Arg Leu Glu Lys Arg Gly Leu Pro Glu  
 115 120 125  
 Arg Leu Lys Glu Ala Met Lys Thr Lys Pro Leu Ser Glu Ile Leu Thr  
 130 135 140  
 Glu Arg Ile Asp Arg Met Lys Glu Ile Ala Asp Tyr Ile Phe Pro Val  
 145 150 155 160  
 Asp His Val Asp His Ser Ser Lys Ser Ser Leu Glu Gln Ala Ser Gln  
 165 170 175  
 Asp Leu Ile Thr Leu Leu Lys Ser  
 180

&lt;210&gt;1114

&lt;211&gt;449

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1114

Val Cys Phe Thr Met Leu Thr Tyr Lys Val Ser Pro Ser Ser Val Tyr  
 1 5 10 15  
 Gly Asn Ala Phe Ile Pro Ser Ser Lys Ser His Thr Leu Arg Ala Ile  
 20 25 30  
 Leu Trp Ala Ser Val Ala Glu Gly Lys Ser Thr Ile Tyr Asn Tyr Leu  
 35 40 45  
 Asp Ser Pro Asp Thr Glu Ala Met Ile Cys Ala Cys Lys Gln Met Gly  
 50 55 60  
 Ala Ser Ile Lys Lys Phe Pro Gln Ile Leu Glu Ile Val Gly Asn Pro  
 65 70 75 80  
 Leu Ala Ile Phe Pro Lys Tyr Thr Leu Ile Asp Ala Gly Asn Ser Gly  
 85 90 95  
 Ile Val Leu Arg Phe Met Thr Ala Leu Ala Cys Val Phe Ser Lys Glu  
 100 105 110  
 Ile Thr Val Thr Gly Ser Ser Gln Leu Gln Arg Arg Pro Met Ala Pro  
 115 120 125

Leu	Leu	Gln	Ala		Arg	Asn	Phe	Gly	Ala	Ser	Phe	His	Phe	Ser	Ser	
130					135						140					
Asp	Lys	Ser	Val	Leu	Pro	Phe	Thr	Met	Ser	Gly	Pro	Leu	Arg	Ser	Ala	
145					150					155					160	
Tyr	Ser	Asp	Val	Glu	Gly	Ser	Asp	Ser	Gln	Phe	Ala	Ser	Ala	Leu	Ala	
				165					170						175	
Val	Ala	Cys	Ser	Leu	Ala	Glu	Gly	Pro	Cys	Ser	Phe	Thr	Ile	Ile	Glu	
			180					185					190			
Pro	Lys	Glu	Arg	Pro	Trp	Phe	Asp	Leu	Ser	Leu	Trp	Trp	Leu	Glu	Lys	
		195				200					205					
Leu	His	Leu	Pro	Tyr	Ser	Cys	Ser	Asp	Thr	Thr	Tyr	Ser	Phe	Pro	Gly	
210					215						220					
Ser	Ser	His	Pro	Gln	Gly	Phe	Ser	Tyr	His	Val	Thr	Gly	Asp	Phe	Ser	
225					230					235					240	
Ser	Ala	Ala	Phe	Ile	Ala	Ala	Ala	Ala	Leu	Ser	Lys	Ser	Leu	Gln		
				245					250					255		
Pro	Ile	Arg	Leu	Arg	Asn	Leu	Asp	Ile	Leu	Asp	Ile	Gln	Gly	Asp	Lys	
			260					265					270			
Ile	Phe	Phe	Ser	Leu	Met	Gln	Asn	Leu	Gly	Ala	Ser	Ile	Gln	Tyr	Asp	
			275				280					285				
Asn	Glu	Glu	Ile	Leu	Val	Phe	Pro	Ser	Ser	Phe	Ser	Gly	Gly	Ser	Ile	
290						295					300					
Asp	Met	Asp	Gly	Cys	Ile	Asp	Ala	Leu	Pro	Ile	Leu	Thr	Val	Leu	Cys	
305					310					315					320	
Cys	Phe	Ala	Asp	Ser	Pro	Ser	His	Leu	Tyr	Asn	Ala	Arg	Ser	Ser	Lys	
				325					330					335		
Asp	Lys	Glu	Ser	Asp	Arg	Ile	Leu	Ala	Ile	Thr	Glu	Glu	Leu	Gln	Lys	
			340					345					350			
Met	Gly	Ala	Cys	Ile	Gln	Pro	Thr	His	Asp	Gly	Leu	Leu	Val	Asn	Pro	
			355				360					365				
Ser	Pro	Leu	Tyr	Gly	Ala	Val	Leu	Asp	Ser	His	Asp	Asp	His	Arg	Ile	
370					375						380					
Ala	Met	Ala	Leu	Thr	Ile	Ala	Ala	Leu	Tyr	Ala	Ser	Gly	Asp	Ser	Arg	
385					390					395					400	
Ile	His	Asn	Thr	Ala	Cys	Val	Arg	Lys	Thr	Phe	Pro	Asn	Phe	Val	Gln	
				405					410					415		
Thr	Leu	Asn	Ile	Met	Glu	Ala	Arg	Ile	Glu	Glu	Cys	His	Asp	Asn	Tyr	
			420					425					430			
Ser	Met	Trp	Ser	Thr	His	Lys	Arg	Lys	Val	Phe	Ala	Arg	Glu	Ser	Phe	
		435					440					445				

Gly

&lt;210&gt;1115

&lt;211&gt;96

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1115

Arg	Cys	Glu	Gly	Glu	Ser	Ala	Lys	Gln	Gln	Arg	Thr	Val	Arg	Met	Gly	
1				5					10					15		
Arg	Ala	Ser	Ile	Gln	Pro	Ser	Ile	Ser	Ile	Glu	Pro	Pro	Glu	Asn	Asp	
			20					25					30			
Glu	Gly	Asn	Thr	Lys	Ile	Ser	Ser	Leu	Ser	Tyr	Cys	Ile	Glu	Ala	Pro	
		35					40					45				
Lys	Phe	Cys	Met	Arg	Glu	Lys	Lys	Ile	Leu	Ser	Pro	Trp	Ile	Ser	Lys	
		50				55					60					
Met	Ser	Lys	Leu	Arg	Arg	Arg	Ile	Gly	Trp	Ser	Asp	Phe	Glu	Ser	Arg	
65					70					75					80	
Ala	Ala	Ala	Ala	Met	Lys	Ala	Ala	Leu	Leu	Lys	Ser	Pro	Val	Thr	Trp	
				85					90					95		

&lt;210&gt;1116

&lt;211&gt;283

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1116

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Arg Pro Ser Gln Ser Leu Phe Leu Arg Thr Trp Ser Pro Ser Ser Ser
 1          5          10          15
Phe Arg Glu His Thr Val Cys Ala Ala Pro Leu Leu Tyr Pro Arg Arg
          20          25          30
Arg Ser Pro Asp Tyr Leu Phe Ser Pro Thr Gly Cys Pro Met Ser Thr
          35          40          45
Thr Thr Val Lys His Phe Ile His Thr Ala Ser Arg Trp Glu Pro Val
          50          55          60
Leu Lys Glu Ile Val Ala Ser Asn Tyr Trp His Ala Gln Trp Ile Asn
          65          70          75          80
Thr Leu Ser Phe Leu Glu Asn Ser Gly Ala Lys Lys Ile Ser Ala Ser
          85          90          95
Glu His Pro Thr Glu Val Lys Glu Glu Val Leu Lys His Ala Ala Glu
          100          105          110
Glu Phe Arg His Gly His Tyr Leu Lys Thr Gln Ile Ser Arg Ile Ser
          115          120          125
Glu Thr Ser Leu Pro Asp Tyr Thr Ser Lys Asn Leu Leu Gly Gly Leu
          130          135          140
Leu Thr Lys Tyr Tyr Leu His Leu Leu Asp Leu Arg Thr Cys Arg Val
          145          150          155          160
Leu Glu Asn Glu Tyr Ser Leu Ser Gly Gln Thr Leu Lys Thr Ala Ala
          165          170          175
Tyr Ile Leu Val Thr Tyr Ala Ile Glu Leu Arg Ala Ser Glu Leu Tyr
          180          185          190
Pro Leu Tyr His Asp Ile Leu Lys Glu Ala Gln Ser Lys Ile Thr Val
          195          200          205
Lys Ser Ile Ile Leu Glu Glu Gln Gly His Leu Gln Glu Met Glu Arg
          210          215          220
Glu Leu Lys Asp Leu Pro His Gly Glu Gly Thr Leu Arg Leu Cys Leu
          225          230          235          240
Pro Ile Arg Arg Gly Ala Leu Leu Ala Val Cys Arg Glu Ile Arg Thr
          245          250          255
Asn Asp Leu Arg Ser Phe Leu Asp Phe Tyr Lys Val Leu Glu Phe Phe
          260          265          270
Leu Asp Asp Lys Ser Glu Val Arg Gln Ile Thr
          275          280

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&lt;210&gt;1117

&lt;211&gt;505

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1117

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Leu Val Met Phe Leu Asp Phe Ser Glu Pro Ser Ile Ser Arg Lys Tyr
 1          5          10          15
Gln Ser His Leu Phe Asn Gly Arg Ser Asn Ala Leu Thr Lys Pro Gln
          20          25          30
Tyr Leu Arg Tyr Gly Gly Lys Trp Val Ser Arg Gly Arg Arg Ala Leu
          35          40          45
Ala Asn Ser Arg Asn Gln Ala Ser Tyr Asn Arg Asp Ser Cys Gln Gly
          50          55          60
Lys Arg Asn His Lys Asp Asn His Lys Leu Leu Cys Arg Thr Met Glu
          65          70          75          80
Gly Ser Met Asp Lys Gln Ser Ser Gly Asn Ser Gly Cys Ile Trp His
          85          90          95
Pro Phe Thr Gln Ser Ala Leu Asp Ser Thr Pro Ile Lys Ile Val Arg
          100          105          110
Gly Glu Gly Ala Tyr Leu Tyr Ala Glu Ser Gly Thr Arg Tyr Leu Asp
          115          120          125
Ala Ile Ser Ser Trp Trp Cys Asn Leu His Gly His Gly His Pro Tyr
          130          135          140
Ile Thr Lys Lys Leu Cys Glu Gln Ala Gln Lys Leu Glu His Val Ile
          145          150          155          160
Phe Ala Asn Phe Thr His Glu Pro Ala Leu Glu Leu Val Ser Lys Leu
          165          170          175
Ala Pro Leu Leu Pro Glu Gly Leu Glu Arg Phe Phe Phe Ser Asp Asn

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180 185 190  
 Gly Ser Thr Ser Ile Glu Ile Ala Met Lys Ile Ala Val Gln Tyr Tyr  
 195 200 205  
 Tyr Asn Gln Asn Lys Ala Lys Ser His Phe Val Gly Leu Ser Asn Ala  
 210 215 220  
 Tyr His Gly Asp Thr Phe Gly Ala Met Ser Ile Ala Gly Thr Ser Pro  
 225 230 235 240  
 Thr Thr Val Pro Phe His Asp Leu Phe Leu Pro Ser Ser Thr Ile Ala  
 245 250 255  
 Ala Pro Tyr Tyr Gly Lys Glu Glu Leu Ala Ile Ala Gln Ala Lys Thr  
 260 265 270  
 Val Phe Ser Glu Ser Asn Ile Ala Ala Phe Ile Tyr Glu Pro Leu Leu  
 275 280 285  
 Gln Gly Ala Gly Gly Met Leu Met Tyr Asn Pro Glu Gly Leu Lys Glu  
 290 295 300  
 Ile Leu Lys Leu Ala Lys His Tyr Gly Val Leu Cys Ile Ala Asp Glu  
 305 310 315 320  
 Ile Leu Thr Gly Phe Gly Arg Thr Gly Pro Leu Phe Ala Ser Glu Phe  
 325 330 335  
 Thr Asp Ile Pro Pro Asp Ile Ile Cys Leu Ser Lys Gly Leu Thr Gly  
 340 345 350  
 Gly Tyr Leu Pro Leu Ala Leu Thr Val Thr Thr Lys Glu Ile His Asp  
 355 360 365  
 Ala Phe Val Ser Gln Asp Arg Met Lys Ala Leu Leu His Gly His Thr  
 370 375 380  
 Phe Thr Gly Asn Pro Leu Gly Cys Ser Ala Ala Leu Ala Ser Leu Asp  
 385 390 395 400  
 Leu Thr Leu Ser Pro Glu Cys Leu Gln Gln Arg Gln Met Ile Glu Arg  
 405 410 415  
 Cys His Gln Glu Phe Gln Glu Ala His Gly Ser Leu Trp Gln Arg Cys  
 420 425 430  
 Glu Val Leu Gly Thr Val Leu Ala Leu Asp Tyr Pro Ala Glu Ala Thr  
 435 440 445  
 Gly Tyr Phe Ser Gln Tyr Arg Asp His Leu Asn Arg Phe Phe Leu Glu  
 450 455 460  
 Arg Gly Val Leu Leu Arg Pro Leu Gly Asn Thr Leu Tyr Val Leu Pro  
 465 470 475 480  
 Pro Tyr Cys Ile Gln Glu Glu Asp Leu Arg Ile Ile Tyr Ser His Leu  
 485 490 495  
 Gln Asp Ala Leu Cys Leu Gln Pro Gln  
 500 505

&lt;210&gt;1118

&lt;211&gt;219

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1118

Met Gln Arg Ile Ile Ile Val Gly Ile Asp Thr Gly Val Gly Lys Thr  
 1 5 10 15  
 Ile Val Ser Ala Ile Leu Ala Arg Ala Leu Asn Ala Glu Tyr Trp Lys  
 20 25 30  
 Pro Ile Gln Ala Gly Asn Leu Glu Asn Ser Asp Ser Asn Ile Val His  
 35 40 45  
 Glu Leu Ser Gly Ala Tyr Cys His Pro Glu Ala Tyr Arg Leu His Lys  
 50 55 60  
 Pro Leu Ser Pro His Lys Ala Ala Gln Ile Asp Asn Val Ser Ile Glu  
 65 70 75 80  
 Glu Ser His Ile Cys Ala Pro Lys Thr Thr Ser Asn Leu Ile Ile Glu  
 85 90 95  
 Thr Ser Gly Gly Phe Leu Ser Pro Cys Thr Ser Lys Arg Leu Gln Gly  
 100 105 110  
 Asp Val Phe Ser Ser Trp Ser Cys Ser Trp Ile Leu Val Ser Gln Ala  
 115 120 125  
 Tyr Leu Gly Ser Ile Asn His Thr Cys Leu Thr Val Glu Ala Met Arg  
 130 135 140

Ser Arg Asn Leu Asn Ile Leu Gly Met Val Val Asn Gly Tyr Pro Glu  
 145 150 155 160  
 Asp Glu Glu His Trp Leu Thr Gln Glu Ile Lys Leu Pro Ile Ile Gly  
 165 170 175  
 Thr Leu Ala Lys Glu Lys Glu Ile Thr Lys Thr Ile Ile Ser Cys Tyr  
 180 185 190  
 Ala Glu Gln Trp Lys Glu Val Trp Thr Ser Asn His Gln Gly Ile Gln  
 195 200 205  
 Gly Val Ser Gly Thr Pro Ser Leu Asn Leu His  
 210 215  
 <210>1119  
 <211>383  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1119  
 Pro Met Leu Cys Gln Gln Phe Leu Ile Glu Ala Leu Ala Arg Arg Lys  
 1 5 10 15  
 Ser Lys His Thr Tyr Arg Ser Leu Ser Leu Asn Ser His Leu Ile Asp  
 20 25 30  
 Phe Thr Ser Asn Asp Tyr Leu Gly Phe Ala Ser Ser Pro Glu Leu Arg  
 35 40 45  
 Lys Glu Tyr Ile Thr Lys Leu His Ala Ile Glu Ser Leu Gly Ala Thr  
 50 55 60  
 Gly Ser Arg Leu Leu Thr Gly His Ser Gln Leu Cys Gln Arg Ile Glu  
 65 70 75 80  
 Glu Gln Leu Ala Ala Tyr His Asn Phe Glu Ser Cys Leu Ile Phe Asn  
 85 90 95  
 Thr Gly Tyr Thr Ala Asn Leu Gly Leu Leu Tyr Ala Leu Ala Thr Asp  
 100 105 110  
 Gln Asp Arg Ile Leu His Asp Leu Tyr Ile His Ala Ser Ile Tyr Asp  
 115 120 125  
 Gly Ile Arg Leu Ser Lys Ala Gln Ser Phe Pro Phe Asn His Asn Asp  
 130 135 140  
 Leu Asn His Leu Glu Lys Arg Leu Ala Ser Ser His Leu Gly Arg Thr  
 145 150 155 160  
 Phe Val Cys Val Glu Ser Val Tyr Ser Leu His Gly Ser Val Ala Pro  
 165 170 175  
 Leu Gln Ala Ile Ser Glu Leu Cys Glu Arg Tyr Ser Ala Tyr Leu Ile  
 180 185 190  
 Val Asp Glu Ala His Ala Val Gly Val Phe Gly Asp Gln Gly Glu Gly  
 195 200 205  
 Leu Val Ser Ala Leu Gly Leu Gln Asp Lys Val Leu Ala Thr Val Tyr  
 210 215 220  
 Thr Phe Gly Lys Ala Leu Gly Thr His Gly Ala Ala Ile Ala Gly Ser  
 225 230 235 240  
 Ser Ile Leu Lys Asp Tyr Leu Ile Asn Phe Cys Arg Pro Phe Ile Tyr  
 245 250 255  
 Thr Thr Ala Gln Pro Pro His Ala Leu Thr Ala Ile Glu Leu Ala Tyr  
 260 265 270  
 Glu His Asn Gln Arg Ala Phe Asn Gln Arg Glu His Leu Ser Ala Leu  
 275 280 285  
 Ile His His Phe Arg Glu Lys Ala Gln Asn Leu Gly Leu Gln Leu Met  
 290 295 300  
 Lys Asp Asn Thr Thr Thr Pro Ile Gln Ser Ile Cys Val Ser Gly Ser  
 305 310 315 320  
 His Arg Ala Arg Gln Ala Ala Leu Gln Ile Gln Asn Ser Gly Tyr Asp  
 325 330 335  
 Val Arg Pro Ile Val Ser Pro Thr Val Lys Gln Arg Glu Glu Leu Leu  
 340 345 350  
 Arg Ile Cys Leu His Ala Phe Asn Thr Lys Asn Glu Ile Asp His Leu  
 355 360 365  
 Leu His Thr Leu Glu Gln Ile Phe Leu Cys Asn Val Ser Ser Leu  
 370 375 380  
 <210>1120

&lt;211&gt;334

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1120

Ala Lys His Met Arg Glu Glu Thr Val Ser Trp Ser Leu Glu Asp Ile  
 1 5 10 15  
 Arg Glu Ile Tyr His Thr Pro Val Phe Glu Leu Ile His Lys Ala Asn  
 20 25 30  
 Ala Ile Leu Arg Ser Asn Phe Leu His Ser Glu Leu Gln Thr Cys Tyr  
 35 40 45  
 Leu Ile Ser Ile Lys Thr Gly Gly Cys Val Glu Asp Cys Ala Tyr Cys  
 50 55 60  
 Ala Gln Ser Ser Arg Tyr His Thr His Val Thr Pro Glu Pro Met Met  
 65 70 75 80  
 Lys Ile Val Asp Val Val Glu Arg Ala Lys Arg Ala Val Glu Leu Gly  
 85 90 95  
 Ala Thr Arg Val Cys Leu Gly Ala Ala Trp Arg Asn Ala Lys Asp Asp  
 100 105 110  
 Arg Tyr Phe Asp Arg Val Leu Ala Met Val Lys Ser Ile Thr Asp Leu  
 115 120 125  
 Gly Ala Glu Val Cys Cys Ala Leu Gly Met Leu Ser Glu Glu Gln Ala  
 130 135 140  
 Lys Lys Leu Tyr Asp Ala Gly Leu Tyr Ala Tyr Asn His Asn Leu Asp  
 145 150 155 160  
 Ser Ser Pro Glu Phe Tyr Glu Thr Ile Ile Thr Thr Arg Ser Tyr Glu  
 165 170 175  
 Asp Arg Leu Asn Thr Leu Asp Val Val Asn Lys Ser Gly Ile Ser Thr  
 180 185 190  
 Cys Cys Gly Gly Ile Val Gly Met Gly Glu Ser Glu Glu Asp Arg Ile  
 195 200 205  
 Lys Leu Leu His Val Leu Ala Thr Arg Asp His Ile Pro Glu Ser Val  
 210 215 220  
 Pro Val Asn Leu Leu Trp Pro Ile Asp Gly Thr Pro Leu Gln Asp Gln  
 225 230 235 240  
 Pro Pro Ile Ser Phe Trp Glu Val Leu Arg Thr Ile Ala Thr Ala Arg  
 245 250 255  
 Val Val Phe Pro Arg Ser Met Val Arg Leu Ala Ala Gly Arg Ala Phe  
 260 265 270  
 Leu Thr Val Glu Gln Gln Thr Leu Cys Phe Leu Ala Gly Ala Asn Ser  
 275 280 285  
 Ile Phe Tyr Gly Asp Lys Leu Leu Thr Val Glu Asn Asn Asp Ile Asp  
 290 295 300  
 Glu Asp Ala Glu Met Ile Lys Leu Leu Gly Leu Ile Pro Arg Pro Ser  
 305 310 315 320  
 Phe Gly Ile Glu Arg Gly Asn Pro Cys Tyr Ala Asn Asn Ser  
 325 330

&lt;210&gt;1121

&lt;211&gt;259

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1121

Ser Glu Phe Met Val Ser Thr Pro Phe Leu Thr Val Phe Ser Met Glu  
 1 5 10 15  
 Lys Leu Leu Ser Lys Ile Phe Leu Asp Tyr Leu Glu Ala Phe Gly Leu  
 20 25 30  
 Leu Ser Asp Phe Leu Asp His Gln Ala Val Ile Lys Phe Phe Glu Leu  
 35 40 45  
 Glu Thr His Phe Ser Tyr Tyr Pro Val Ser Gly Phe Val Ala Pro His  
 50 55 60  
 Gln Tyr Leu Ser Leu Leu Gln Asp Arg Tyr Phe Pro Ile Ala Ser Val  
 65 70 75 80  
 Met Arg Thr Leu Asp Lys Asp Asn Phe Ser Leu Thr Pro Asp Leu Ile  
 85 90 95  
 His Asp Leu Leu Gly His Val Pro Trp Leu Leu His Pro Ser Phe Ser



100 105 110  
 Glu Phe Phe Ile Asn Met Gly Arg Leu Phe Thr Lys Val Ile Glu Lys  
 115 120 125  
 Val Gln Ala Leu Pro Ser Lys Lys Gln Arg Ile Gln Thr Leu Gln Ser  
 130 135 140  
 Asn Leu Ile Ala Ile Val Arg Cys Phe Trp Phe Thr Val Glu Ser Gly  
 145 150 155 160  
 Leu Ile Glu Asn His Glu Gly Arg Lys Ala Tyr Gly Ala Val Leu Ile  
 165 170 175  
 Ser Ser Pro Gln Glu Leu Gly His Ala Phe Ile Asp Asn Val Arg Val  
 180 185 190  
 Leu Pro Leu Glu Leu Asp Gln Ile Ile Arg Leu Pro Phe Asn Thr Ser  
 195 200 205  
 Thr Pro Gln Glu Thr Leu Phe Ser Ile Arg His Phe Asp Glu Leu Val  
 210 215 220  
 Glu Leu Thr Ser Lys Leu Glu Trp Met Leu Asp Gln Gly Leu Leu Glu  
 225 230 235 240  
 Ser Ile Pro Leu Tyr Asn Gln Glu Lys Tyr Leu Ser Gly Phe Glu Val  
 245 250 255  
 Leu Cys Gln

&lt;210&gt;1122

&lt;211&gt;264

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1122

Met Gly Ser Ser Met His Val Gly Val Ile Gly Cys Ser Gly Arg Thr  
 1 5 10 15  
 Gly Lys Val Ile Val Ser Ala Leu Glu Gln Ser Ser Glu Tyr Thr Leu  
 20 25 30  
 Gly Pro Gly Phe Ser Arg Ser Ser Ala Leu Thr Leu Phe Gln Val Ile  
 35 40 45  
 Ala His Asn Asp Val Leu Val Asp Phe Ser His Pro Leu Leu Thr Lys  
 50 55 60  
 Glu Val Val Ala His Leu Ile Ser Pro Lys Pro Leu Ile Ile Gly  
 65 70 75 80  
 Thr Thr Gly Phe Pro Gly Lys Cys Lys Glu Ala His Asp Ser Leu Glu  
 85 90 95  
 Glu Leu Thr His Ile Val Pro Val Val Val Cys Pro Asn Ala Ser Leu  
 100 105 110  
 Gly Ala Tyr Ile His Lys Arg Leu Val Met Leu Leu Ser Gln Leu Cys  
 115 120 125  
 Asn Pro Gln Phe Asp Ile Arg Ile Arg Glu Thr His His Arg Tyr Lys  
 130 135 140  
 Lys Asp Ser Leu Ser Gly Thr Ala Gln Asp Leu Leu Asp Thr Ile Gln  
 145 150 155 160  
 Gln Val Lys Gln Glu Asp Trp Gly Glu Glu Tyr Glu Val Gly Gln Arg  
 165 170 175  
 Asp Ser Ser Lys Lys Thr Ile Glu Val Gln Ser Ser Arg Val Gly Asp  
 180 185 190  
 Ile Pro Gly Glu His Glu Val Ala Phe Ile Ser Ser Gly Glu Gln Ile  
 195 200 205  
 Leu Val Arg His Thr Val Phe Ser Arg Asn Val Phe Gly Arg Gly Ile  
 210 215 220  
 Leu Ser Ile Leu Asp Trp Leu Lys Thr Leu Asn Pro Gln Pro Gly Leu  
 225 230 235 240  
 Tyr Ser Leu Gly Asp Thr Leu Glu Leu Val Leu Arg Asn Glu His Cys  
 245 250 255  
 Leu Leu Lys Lys Thr Thr Asp His  
 260

&lt;210&gt;1123

&lt;211&gt;295

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1123

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Ile Trp Ala Ile Val Trp Arg Cys Leu Tyr Leu Ala Gly Ala Ile Gly
 1           5           10           15
Pro Met Pro Glu Met Val Arg Asp Leu Pro Ile Arg Lys Ile Glu Glu
          20           25           30
Val Gln Ser Asp Ile Val Val Ser Phe Leu Pro Ser Ser Ala Glu Ser
          35           40           45
Met Glu Ala Tyr Cys Leu Ser Gln Gly Lys Val Val Phe Ser Asn Ala
          50           55           60
Ser Thr Tyr Arg Met His Ser Ser Val Pro Ile Ile Ile Pro Glu Val
          65           70           75           80
Asn Ser Asp His Phe Gln Leu Leu Glu Glu Gln Pro Tyr Pro Gly Lys
          85           90           95
Ile Ile Thr Ser Pro Asn Cys Cys Val Ser Gly Ile Thr Leu Ala Leu
          100          105          110
Ala Pro Leu Arg Lys Phe Ser Leu Asp His Val His Ile Val Thr Leu
          115          120          125
Gln Ser Ala Ser Gly Ala Gly Tyr Pro Gly Val Pro Ser Leu Asp Leu
          130          135          140
Leu Ala Asn Thr Val Pro His Ile Val Gly Glu Glu Glu Lys Ile Leu
          145          150          155          160
Arg Glu Thr Val Lys Ile Leu Gly Ser Ser Lys Gln Pro Leu Pro Cys
          165          170          175
Lys Leu Ser Val Thr Val His Arg Val Pro Val Ala Tyr Gly His Thr
          180          185          190
Leu Ser Leu His Val Thr Phe Ser Lys Asp Val Asp Leu Asp Glu Ile
          195          200          205
Leu Tyr Ser Tyr Gln Glu Lys Asn Lys Glu Phe Pro Asn Thr Tyr Gln
          210          215          220
Leu Tyr Asp Asn Pro Trp Ser Pro Gln Ala Arg Lys His Leu Ser His
          225          230          235          240
Asp Asp Met Arg Val His Leu Gly Pro Ile Thr Tyr Gly Gly Asp Phe
          245          250          255
Arg Thr Ile Lys Met Asn Val Leu Ile His Asn Leu Val Arg Gly Ala
          260          265          270
Ala Gly Thr Leu Leu Ala Ser Met Glu Asn Tyr Phe Phe Asp Tyr Leu
          275          280          285
Lys Arg Glu Met Cys Leu Arg
          290          295

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&lt;210&gt;1124

&lt;211&gt;441

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1124

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Asn Val Ser Lys Ile Val Tyr Lys Phe Gly Gly Thr Ser Leu Ala Thr
 1           5           10           15
Ala Glu Asn Ile Cys Leu Val Cys Asp Ile Ile Cys Lys Asp Lys Pro
          20           25           30
Ser Phe Val Val Val Ser Ala Ile Ala Gly Val Thr Asp Leu Leu Val
          35           40           45
Asp Phe Cys Ser Ser Ser Leu Arg Glu Arg Glu Glu Val Leu Arg Lys
          50           55           60
Ile Glu Gly Lys His Glu Ile Val Lys Asn Leu Ala Ile Pro Phe
          65           70           75           80
Pro Val Ser Thr Trp Thr Ser Arg Leu Leu Pro Tyr Leu Gln His Leu
          85           90           95
Glu Ile Ser Asp Leu Asp Phe Ala Arg Ile Leu Ser Leu Gly Glu Asp
          100          105          110
Ile Ser Ala Ser Leu Val Arg Ala Val Cys Ser Thr Arg Gly Trp Asp
          115          120          125
Leu Gly Phe Leu Glu Ala Arg Ser Val Ile Leu Thr Asp Asp Ser Tyr
          130          135          140
Arg Arg Ala Ser Pro Asn Leu Asp Leu Met Lys Ala His Trp His Gln
          145          150          155          160

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Leu Glu Leu Asn Gln Pro Ser Tyr Ile Ile Gln Gly Phe Ile Gly Ser  
 165 170 175  
 Asn Gly Leu Gly Glu Thr Val Leu Leu Gly Arg Gly Gly Ser Asp Tyr  
 180 185 190  
 Ser Ala Thr Leu Ile Ala Glu Leu Ala Arg Ala Thr Glu Val Arg Ile  
 195 200 205  
 Tyr Thr Asp Val Asn Gly Ile Tyr Thr Met Asp Pro Lys Val Ile Ser  
 210 215 220  
 Asp Ala Gln Arg Ile Pro Glu Leu Ser Phe Glu Glu Met Gln Asn Leu  
 225 230 235 240  
 Ala Ser Phe Gly Ala Lys Val Leu Tyr Pro Pro Met Leu Phe Pro Cys  
 245 250 255  
 Met Arg Ala Gly Ile Pro Ile Phe Val Thr Ser Thr Phe Asp Pro Glu  
 260 265 270  
 Lys Gly Gly Thr Trp Val Tyr Ala Val Asp Lys Ser Val Ser Tyr Glu  
 275 280 285  
 Pro Arg Ile Lys Ala Leu Ser Leu Ser Gln Tyr Gln Ser Phe Cys Ser  
 290 295 300  
 Val Asp Tyr Thr Val Leu Gly Cys Gly Gly Leu Glu Glu Ile Leu Gly  
 305 310 315 320  
 Ile Leu Glu Ser His Gly Ile Asp Pro Glu Leu Met Ile Ala Gln Asn  
 325 330 335  
 Asn Val Val Gly Phe Val Met Asp Asp Asp Ile Ile Ser Gln Glu Ala  
 340 345 350  
 Gln Glu His Leu Val Asp Val Leu Ser Leu Ser Ser Val Thr Arg Leu  
 355 360 365  
 His His Ser Val Ala Leu Ile Thr Met Ile Gly Asp Asn Leu Ser Ser  
 370 375 380  
 Pro Lys Val Val Ser Thr Ile Thr Glu Lys Leu Arg Gly Phe Gln Gly  
 385 390 395 400  
 Pro Val Phe Cys Phe Cys Gln Ser Ser Met Ala Leu Ser Phe Val Val  
 405 410 415  
 Ala Ser Glu Leu Ala Glu Gly Ile Ile Glu Glu Leu His Asn Asp Tyr  
 420 425 430  
 Val Lys Gln Lys Ala Ile Val Ala Thr  
 435 440

&lt;210&gt;1125

&lt;211&gt;271

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1125

Lys Ser Tyr Ser Arg His Val Gly Arg Ile Met His Leu Leu Thr Ala  
 1 5 10 15  
 Thr Val Thr Pro Phe Phe Pro Asn Gly Thr Ile Asp Phe Ala Ser Leu  
 20 25 30  
 Glu Arg Leu Ser Phe Gln Asp Ala Val Gly Asn Gly Val Val Leu  
 35 40 45  
 Leu Gly Ser Thr Gly Glu Gly Leu Ser Leu Thr Lys Lys Glu Lys Gln  
 50 55 60  
 Ala Leu Ile Cys Phe Ala Cys Asp Leu Gln Leu Lys Val Pro Leu Phe  
 65 70 75 80  
 Val Gly Thr Ser Gly Thr Leu Leu Glu Glu Val Leu Asp Trp Ile His  
 85 90 95  
 Phe Cys Asn Asp Leu Pro Ile Ser Gly Phe Leu Met Thr Thr Pro Ile  
 100 105 110  
 Tyr Thr Lys Pro Lys Leu Cys Gly Gln Ile Leu Trp Phe Glu Ala Val  
 115 120 125  
 Leu Asn Ala Ala Lys His Pro Ala Ile Leu Tyr Asn Ile Pro Ser Arg  
 130 135 140  
 Ala Ala Thr Pro Leu Tyr Leu Asp Thr Val Lys Ala Leu Ala His His  
 145 150 155 160  
 Pro Gln Phe Leu Gly Ile Lys Asp Ser Gly Gly Ser Val Glu Glu Phe  
 165 170 175  
 Gln Ser Tyr Lys Ser Ile Ala Pro His Ile Gln Leu Tyr Cys Gly Asp

180 185 190  
 Asp Val Phe Trp Ser Glu Met Ala Ala Cys Gly Ala His Gly Leu Ile  
 195 200 205  
 Ser Val Leu Ser Asn Ala Trp Pro Glu Glu Ala Arg Glu Tyr Val Leu  
 210 215 220  
 Asn Pro Gln Glu Gln Asp Tyr Arg Ser Leu Trp Met Glu Thr Cys Arg  
 225 230 235 240  
 Trp Val Tyr Thr Thr Thr Asn Pro Ile Gly Ile Lys Ala Ile Leu Ala  
 245 250 255  
 Tyr Lys Lys Ala Ile Thr His Ala His Cys Ala Cys Pro Cys Leu  
 260 265 270

&lt;210&gt;1126

&lt;211&gt;256

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1126

Phe Phe Ile Gln Lys Met Lys Tyr Asn Ser Arg Glu Lys Ile Lys Ser  
 1 5 10 15  
 Ala Leu Arg Ile Cys Ser Ser Tyr Cys Ile Thr Val Phe Arg Asn Asn  
 20 25 30  
 Phe Ser Leu Ser Cys Tyr Asp Lys Ile Phe Tyr Ser Leu Ser Cys Tyr  
 35 40 45  
 Val Phe Asn Gly Pro Asn Ser Ile Gly Arg Cys Arg Ser Phe Cys Phe  
 50 55 60  
 Phe Arg Gly Lys Lys Thr Glu Val Glu Thr Lys Glu Val Lys Ile Lys  
 65 70 75 80  
 Asp Glu Ile Arg Pro Ser Leu Glu Gly Asn Asp Pro Val Lys Val Ala  
 85 90 95  
 Glu Ser Phe Pro Lys Arg Arg Ala Ala Leu Glu Ser Leu Ser Ser Gln  
 100 105 110  
 Ser Ser Ile Gly Asn Leu Cys Ala Ile Ser Asn Phe Leu Asp Ser Gln  
 115 120 125  
 Met Leu Ser Arg Asn Phe Ser Lys Glu Ile Trp Gly Ser Thr Ile Phe  
 130 135 140  
 Thr Arg Ser Lys Ser Thr Cys Asp Ala Glu Gly Ser Glu Pro Phe Arg  
 145 150 155 160  
 Tyr Thr Ala Cys Gly Tyr Leu Ala Gly Leu Arg Ser Lys Leu Ala Gly  
 165 170 175  
 Ser Tyr Glu Leu Gly Val Thr Ala Gly Leu Leu Gln Gly Arg Leu Lys  
 180 185 190  
 Asp Val Ser Asp Ser His Arg Thr Arg Ala Thr Ser Ser Ile Leu Ser  
 195 200 205  
 Val His Gly Ser Met Val Thr Arg Pro Leu Ser Cys Thr Lys Tyr Ile  
 210 215 220  
 Val Gly Lys Ala Arg Pro Leu Leu Phe Phe Phe Arg Leu Thr Ser Asp  
 225 230 235 240  
 Val Arg Arg Asp Leu Lys Lys Lys Phe Arg Leu Glu Phe Cys Lys Asp  
 245 250 255

&lt;210&gt;1127

&lt;211&gt;119

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1127

His Ile Leu Phe Tyr Ser Lys Phe Thr Tyr Arg Thr Pro Leu Arg Val  
 1 5 10 15  
 Thr Ser Pro Ser Gly Arg His Asp Phe Asn Ile Asp Met His Val Ala  
 20 25 30  
 Pro Lys Ile Gly Ala Val Leu Ser His Gly Thr Arg Glu Ala Lys Glu  
 35 40 45  
 Ile Pro Gly Ser Ser Lys Asp Tyr Ala Phe Phe Ser Leu Thr Ala Arg  
 50 55 60  
 Glu Ser Leu Met Ile Ser Glu Lys Leu Ala Met Thr Phe Gln Val Ser  
 65 70 75 80  
 Glu Val Ile Gln Asn Cys Tyr Ser Gln Cys Thr Lys Val Thr Lys Thr

85 90 95  
 Asn Leu Lys Glu Gln Tyr Arg His Leu Ser His Asn Thr Gly Phe Glu  
 100 105 110  
 Leu Ser Val Lys Ser Ala Phe  
 115  
 <210>1128  
 <211>810  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1128  
 Cys Lys Tyr Phe Tyr Leu Arg Ser Tyr Pro Pro Pro Gln His Ser Val  
 1 5 10 15  
 Gly Ser Ile Ser Ser Pro Ser Lys Leu Arg Val Leu Ala Ile Thr Phe  
 20 25 30  
 Leu Val Phe Gly Met Leu Leu Leu Ile Ser Gly Ala Leu Phe Leu Thr  
 35 40 45  
 Leu Gly Ile Pro Gly Leu Ser Ala Ala Ile Ser Phe Gly Leu Gly Ile  
 50 55 60  
 Gly Leu Ser Ala Leu Gly Gly Val Leu Met Ile Ser Gly Leu Leu Cys  
 65 70 75 80  
 Leu Leu Val Lys Arg Glu Ile Pro Thr Val Arg Pro Glu Glu Ile Pro  
 85 90 95  
 Glu Gly Val Ser Leu Ala Pro Ser Glu Glu Pro Ala Leu Gln Ala Ala  
 100 105 110  
 Gln Lys Thr Leu Ala Gln Leu Pro Lys Glu Leu Asp Gln Leu Asp Thr  
 115 120 125  
 Asp Ile Gln Glu Val Phe Ala Cys Leu Arg Lys Leu Lys Asp Ser Lys  
 130 135 140  
 Tyr Glu Ser Arg Ser Phe Leu Asn Asp Ala Lys Lys Glu Leu Arg Val  
 145 150 155 160  
 Phe Asp Phe Val Val Glu Asp Thr Leu Ser Glu Ile Phe Glu Leu Arg  
 165 170 175  
 Gln Ile Val Ala Gln Glu Gly Trp Asp Leu Asn Phe Leu Ile Asn Gly  
 180 185 190  
 Gly Arg Ser Leu Met Met Thr Ala Glu Ser Glu Ser Leu Asp Leu Phe  
 195 200 205  
 His Val Ser Lys Arg Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg Gly  
 210 215 220  
 Glu Gly Leu Lys Lys Ser Ala Lys Glu Ile Val Ala Arg Leu Met Ser  
 225 230 235 240  
 Leu His Cys Glu Ile His Lys Val Ala Val Ala Phe Asp Arg Asn Ser  
 245 250 255  
 Tyr Ala Met Ala Glu Lys Ala Phe Ala Lys Ala Leu Gly Ala Leu Glu  
 260 265 270  
 Glu Ser Val Tyr Arg Ser Leu Thr Gln Ser Tyr Arg Asp Lys Phe Leu  
 275 280 285  
 Glu Ser Glu Arg Ala Lys Ile Pro Trp Asn Gly His Ile Thr Trp Leu  
 290 295 300  
 Arg Asp Asp Ala Lys Ser Gly Cys Ala Glu Lys Lys Leu Arg Asp Ala  
 305 310 315 320  
 Glu Glu Arg Trp Lys Lys Phe Arg Lys Ala Val Phe Trp Val Glu Glu  
 325 330 335  
 Asp Gly Gly Phe Asp Ile Asn Asn Leu Leu Gly Asp Trp Gly Thr Val  
 340 345 350  
 Leu Asp Pro Tyr Arg Gln Glu Arg Met Asp Glu Ile Thr Phe His Glu  
 355 360 365  
 Leu Tyr Glu Lys Thr Thr Phe Leu Lys Arg Leu His Arg Lys Cys Ala  
 370 375 380  
 Leu Ala Lys Thr Thr Phe Glu Lys Xaa Arg Ser Lys Lys Asn Leu Gln  
 385 390 395 400  
 Ala Val Xaa Glu Ala Asn Ala Arg Arg Leu Lys Tyr Val Arg Asp Trp  
 405 410 415  
 Tyr Asp Gln Xaa Phe Gln Lys Ala Gly Glu Arg Leu Glu Lys Leu His  
 420 425 430

Ala Leu Tyr Pro Val Ser Val Ser Ile Arg Glu Asn Lys Ile Gln  
 435 440 445  
 Glu Thr Arg Ser Asn Leu Xaa Lys Ala Tyr Glu Ala Ile Glu Xaa Asn  
 450 455 460  
 Tyr Arg Cys Cys Val Arg Glu Gln Glu Asp Tyr Trp Lys Glu Glu Glu  
 465 470 475 480  
 Lys Arg Glu Ala Xaa Phe Arg Glu Arg Gly Asn Xaa Ile Leu Ser Pro  
 485 490 495  
 Glu Glu Leu Glu Xaa Ser Leu Glu Gln Phe Asp His Gly Leu Lys Asn  
 500 505 510  
 Phe Ser Glu Lys Leu Met Glu Leu Glu Gly His Ile Leu Lys Leu Gln  
 515 520 525  
 Lys Glu Ala Thr Ala Glu Val Glu Asn Lys Ile Leu Ser Asp Ala Glu  
 530 535 540  
 Ser Arg Leu Glu Ile Val Phe Glu Asp Val Lys Glu Met Pro Cys Arg  
 545 550 555 560  
 Ile Glu Glu Ile Glu Lys Thr Leu Arg Met Ala Xaa Leu Pro Leu Leu  
 565 570 575  
 Pro Thr Lys Lys Ala Phe Glu Lys Ala Cys Ser Gln Tyr Asn Ser Cys  
 580 585 590  
 Ala Glu Met Leu Glu Lys Val Lys Pro Tyr Cys Lys Glu Ser Leu Ala  
 595 600 605  
 Tyr Val Thr Ser Lys Glu Arg Leu Val Ser Leu Asp Glu Asp Leu Arg  
 610 615 620  
 Arg Ala Tyr Thr Glu Cys Gln Lys Arg Phe Gln Gly Asp Ser Gly Leu  
 625 630 635 640  
 Glu Ser Glu Val Arg Ala Cys Arg Glu Gln Leu Arg Glu Arg Ile Gln  
 645 650 655  
 Glu Phe Glu Thr Gln Gly Leu Asp Leu Val Glu Lys Glu Leu Leu Cys  
 660 665 670  
 Val Ser Ser Arg Leu Arg Asn Thr Glu Cys Asp Cys Val Ser Gly Val  
 675 680 685  
 Lys Lys Glu Ala Pro Pro Gly Lys Lys Phe Tyr Ala Gln Tyr Tyr Asp  
 690 695 700  
 Glu Ile Tyr Arg Val Arg Val Gln Ser Arg Trp Met Thr Met Ser Glu  
 705 710 715 720  
 Arg Leu Arg Glu Gly Val Gln Ala Cys Asn Lys Met Leu Lys Ala Gly  
 725 730 735  
 Leu Ser Glu Glu Asp Lys Val Leu Lys Glu Glu Glu Tyr Trp Leu Tyr  
 740 745 750  
 Arg Glu Glu Arg Lys Asn Lys Glu Lys Arg Leu Val Gly Thr Lys Ile  
 755 760 765  
 Val Ala Thr Gln Gln Arg Val Ala Ala Phe Glu Ser Ile Glu Val Pro  
 770 775 780  
 Glu Ile Pro Glu Ala Pro Glu Glu Lys Pro Ser Leu Leu Asp Lys Ala  
 785 790 795 800  
 Arg Ser Leu Phe Thr Arg Glu Asp His Thr  
 805 810

&lt;210&gt;1129

&lt;211&gt;132

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1129

Val Ala Cys Arg Ala Gly Ser Ser Glu Gly Ala Thr Glu Thr Pro Ser  
 1 5 10 15  
 Gly Ile Ser Ser Gly Arg Thr Val Gly Thr Ser Arg Phe Ala Lys Arg  
 20 25 30  
 His Arg Ser Pro Glu Thr Thr Ser Thr Pro Pro Asn Ala Glu Arg Pro  
 35 40 45  
 Met Pro Asn Pro Lys Glu Ile Ala Ala Leu Asn Pro Glu Ile Pro Asn  
 50 55 60  
 Val Arg Lys Arg Ala Pro Glu Ile Lys Lys Ser Thr Pro Arg Thr Lys  
 65 70 75 80  
 Lys Val Ile Ala Lys Thr Arg Asn Leu Asp Arg Gln Lys Lys Ala Pro

85 90 95  
 Thr Glu Trp Ser Gly Gly Gly Gly Gly Ser Cys Gly Asp Arg Gly Thr  
 100 105 110  
 Cys Ile Met Asn Leu Trp Arg His His Ala Gln Thr His Lys Leu Asn  
 115 120 125  
 Pro Leu Ser Tyr  
 130

&lt;210&gt;1130

&lt;211&gt;320

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1130

Trp Arg His Arg Phe Ile Met Gln Val Pro Leu Ser Pro Gln Leu Pro  
 1 5 10 15  
 Pro Pro Pro Pro Asp His Ser Val Gly Ala Phe Phe Cys Leu Ser Lys  
 20 25 30  
 Phe Arg Val Leu Ala Ile Thr Phe Leu Val Leu Gly Val Leu Phe Leu  
 35 40 45  
 Ile Ser Gly Ala Leu Phe Leu Thr Leu Gly Ile Ser Gly Leu Ser Ala  
 50 55 60  
 Ala Ile Ser Phe Gly Leu Gly Ile Gly Leu Ser Ala Leu Gly Gly Val  
 65 70 75 80  
 Leu Val Val Ser Gly Leu Leu Cys Leu Leu Ala Lys Arg Glu Val Pro  
 85 90 95  
 Thr Val Arg Pro Glu Glu Ile Pro Glu Gly Val Ser Val Ala Pro Ser  
 100 105 110  
 Glu Glu Pro Ala Leu Gln Ala Thr Gln Lys Thr Leu Ala Gln Leu Pro  
 115 120 125  
 Lys Glu Leu Asp Gln Leu Asp Arg Tyr Ile Gln Glu Val Val Ser Cys  
 130 135 140  
 Leu Gly Lys Leu Lys Asp Leu Arg Cys Glu Asp Gln Gly Leu Leu Lys  
 145 150 155 160  
 Asp Ala Lys Glu Lys Leu Gln Val Phe Asp Phe Val Trp Lys Asp Met  
 165 170 175  
 Met Thr Glu Phe Val Glu Leu Gln Gln Ile Met Asp Gln Glu Gly Trp  
 180 185 190  
 Tyr Leu Lys Cys Leu Ile Gln Glu Met Arg Asp Ile Gly Ser Thr Leu  
 195 200 205  
 Phe Met Ser Gln Val Ser Leu Phe Lys Leu Trp Glu Trp Leu Gly Tyr  
 210 215 220  
 Leu Pro Ser Gly Asp Val Arg Gly Glu Arg Leu Lys Lys Ser Ala Arg  
 225 230 235 240  
 Glu Val Val Asp Arg Phe Met Arg Arg Ile Cys Asp Thr Arg Lys Val  
 245 250 255  
 Ala Met Thr Phe Asp Arg Asn Ala Tyr Gly Val Ala Lys Thr Ala Phe  
 260 265 270  
 Glu Lys Ala Phe Gly Ala Leu Glu Thr Cys Val Tyr Lys Ser Met Thr  
 275 280 285  
 Glu Ser Tyr Arg Glu Ala Phe Cys Glu Tyr Lys Lys Thr Lys Ile Leu  
 290 295 300  
 Arg Asp Glu Glu Lys Ile Leu Arg Ile Cys Tyr Leu Glu Leu Arg Arg  
 305 310 315 320

&lt;210&gt;1131

&lt;211&gt;249

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1131

Gly Glu Asp Ile Lys Asp Met Leu Ser Arg Val Glu Glu Ile Glu Met  
 1 5 10 15  
 Met Leu Arg Val Ile Glu Leu Pro Leu Pro Ile Lys Gln Ala Leu  
 20 25 30  
 Glu Lys Ala Phe Val Gln Tyr Asn Ser Tyr Lys Ala Lys Leu Thr Lys  
 35 40 45  
 Val Glu Pro Cys Phe Arg Glu Ser Pro Ala Tyr Ile Thr Ser Glu Glu

50 55 60  
 Arg Leu Xaa Ser Leu Asp Gln Thr Leu Glu Arg Ala Tyr Lys Glu Tyr  
 65 70 75 80  
 Gln Lys Arg Phe Gln Glu Pro Ser Arg Leu Glu Ser Glu Val Ser Gly  
 85 90 95  
 Cys Arg Glu His Leu Arg Glu Gln Val Lys Gln Phe Glu Thr Gln Gly  
 100 105 110  
 Leu Asp Leu Ile Lys Glu Glu Leu Ile Phe Val Ser Asp Val Leu Phe  
 115 120 125  
 Arg Lys Met Val Ser Cys Leu Val Ser Thr Val His Val Pro Phe Met  
 130 135 140  
 Glu Phe Tyr Tyr Glu Tyr Phe Glu Leu His Arg Leu Arg Leu Arg Ala  
 145 150 155 160  
 Gln Trp Met Ala Asn Ala Glu Ile Tyr Ser Lys Val Arg Lys Ala Phe  
 165 170 175  
 Pro Glu Met Leu Lys Glu Thr Leu Glu Lys Ala Lys Ala Pro Arg Glu  
 180 185 190  
 Glu Glu Tyr Trp Leu Leu Cys Glu Glu Arg Lys Ser Lys Glu Lys Arg  
 195 200 205  
 Leu Ile Leu Asn Lys Ile Glu Ala Ala Gln Gln Arg Val Lys Asp Leu  
 210 215 220  
 Glu Pro Pro Pro Ile Lys Glu Thr Gly Lys Gln Lys Arg Lys Lys Glu  
 225 230 235 240  
 Tyr Ser Phe Phe Ile Arg Leu Lys Ser  
 245

&lt;210&gt;1132

&lt;211&gt;679

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1132

Met Pro Glu Pro Leu Tyr Thr Asn Lys Leu Ile Thr Glu Lys Ser Pro  
 1 5 10 15  
 Tyr Leu Leu Leu Tyr Ala His Thr Pro Val Asn Trp Tyr Pro Trp Gly  
 20 25 30  
 Ala Glu Ala Phe His Ile Ala Ala Ile Glu Asn Lys Pro Val Phe Leu  
 35 40 45  
 Ser Ile Gly Cys Lys His Ser Arg Trp Cys Gln Val Met Leu Gln Glu  
 50 55 60  
 Ser Tyr Thr Asn Pro Glu Ile Ala Ala Met Leu Asn Glu Tyr Phe Val  
 65 70 75 80  
 Asn Val Lys Val Asp Lys Glu Glu Leu Pro Tyr Val Ala Lys Leu Tyr  
 85 90 95  
 Gly Asp Leu Ala Gln Met Leu Ala Val Ser Gly Asp His Gln Glu Thr  
 100 105 110  
 Val Ser Trp Pro Leu Asn Val Phe Leu Thr Pro Asp Leu Val Pro Phe  
 115 120 125  
 Phe Ser Val Asn Tyr Leu Gly Asn Glu Gly Lys Leu Gly Leu Pro Ser  
 130 135 140  
 Phe Pro Gln Ile Ile Asp Lys Leu His Phe Met Trp Glu Asp Ala Glu  
 145 150 155 160  
 Glu Arg Glu Ala Leu Val Glu Gln Ala Met Arg Phe Leu Glu Ile Ala  
 165 170 175  
 Ser Phe Leu Glu Gly Cys Val Arg Lys Glu Ile Leu Asp Glu Ser Ser  
 180 185 190  
 Leu Lys Arg Thr Val Ala Ala Leu Tyr Gln Asp Ile Asp Pro His Tyr  
 195 200 205  
 Gly Gly Val Lys Ala Phe Pro Lys Arg Leu Pro Gly Leu Leu Leu Gln  
 210 215 220  
 Phe Phe Leu Arg Tyr Ser Leu Glu Tyr Gln Glu Ser Arg Gly Leu Phe  
 225 230 235 240  
 Phe Val Asp Arg Ser Leu Ser Met Val Ala Leu Gly Gly Val Arg Asp  
 245 250 255  
 His Ile Gly Gly Gly Val Tyr Ser Tyr Thr Ile Asp Asp Lys Trp Leu  
 260 265 270



Ile Pro Ala Phe Glu Lys Arg Leu Ile Asp Asn Ala Leu Me a Leu  
 275 280 285  
 Asn Tyr Leu Glu Ala Trp Ala Cys Leu Gly Lys Glu Glu Tyr Arg Gly  
 290 295 300  
 Ile Gly Lys Gln Ile Leu Ser Tyr Ile Leu Ser Glu Leu Tyr Ser Pro  
 305 310 315 320  
 Glu Val Gly Ala Phe Tyr Ser Ser Glu Gln Ala Glu Asn Trp Gly Ala  
 325 330 335  
 Gly Gly Gln Asn Phe Tyr Thr Trp Ser Val Glu Glu Ile Ser Asn Ala  
 340 345 350  
 Leu Gly Glu Asp Ala Glu Ile Phe Cys Asp Tyr Tyr Gly Ile Ser Arg  
 355 360 365  
 Glu Gly Phe Phe Asn Gly Arg Asn Ile Leu His Ile Pro Val His Arg  
 370 375 380  
 Glu Ile Glu Glu Leu Ser Glu Lys Tyr His Arg Ser Ile Glu Ala Ile  
 385 390 395 400  
 Glu Asp Ile Val Asp Arg Ser Arg Asp Ile Leu Lys Gly Ile Arg Ala  
 405 410 415  
 Gln Arg Ser His Arg Ser Lys Asp Asp Leu Ser Leu Thr Phe Asn Asn  
 420 425 430  
 Gly Trp Met Ile Tyr Thr Phe Ala Tyr Ala Gly Arg Leu Leu Gly Glu  
 435 440 445  
 Val Glu Tyr Ile Glu Ile Glu Lys Lys Cys Gly Glu Phe Val Arg Asn  
 450 455 460  
 Ser Leu Tyr Lys His His Glu Leu Tyr Arg Arg Trp Arg Glu Gly Glu  
 465 470 475 480  
 Ala Lys Tyr Arg Ala Ser Leu Glu Asp Tyr Gly Ala Leu Ile Leu Gly  
 485 490 495  
 Val Leu Ala Leu Tyr Glu Ser Gly Cys Gly Ser Phe Trp Leu Ser Phe  
 500 505 510  
 Ala Glu Glu Leu Met Gln Glu Val Leu Ser Phe Arg Ser Glu Glu  
 515 520 525  
 Gly Gly Phe Tyr Ser Asp Asp Gly Arg Asp Ser Thr Leu Leu Ile Lys  
 530 535 540  
 Gln Ser Pro Leu Ser Asp Gly Glu Thr Ile Ser Gly Asn Ala Leu Ile  
 545 550 555 560  
 Cys Gln Cys Leu Leu Ser Leu His Leu Ile Thr Glu Lys Lys His Tyr  
 565 570 575  
 Leu Thr Tyr Ala Glu Asp Ile Leu Gln Ile Ala Gln Ala Cys Ala His  
 580 585 590  
 Thr His Lys Phe Ser Ser Leu Gly Leu Leu Ile Ala Ser Gln Asn Tyr  
 595 600 605  
 Phe Ser Arg Lys His Val Lys Val Leu Ile Pro Leu Gly Asp Gln Glu  
 610 615 620  
 Asp Arg Ser Pro Val Leu Lys Cys Leu Ser Gly Leu Phe Leu Pro Tyr  
 625 630 635 640  
 Leu Ser Leu Ile Trp Met Thr Gln Glu Asn Gln Glu His Leu Glu Thr  
 645 650 655  
 Val Leu Pro Glu Tyr Glu His Cys Leu Ile Pro Lys Arg Gly Ile Ala  
 660 665 670  
 Gln Leu Arg Gln Phe Met Phe  
 675

&lt;210&gt;1133

&lt;211&gt;365

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1133

Glu Val Met Lys Leu Tyr Gln Thr Leu Arg Gly Ile Val Leu Val Ser  
 1 5 10 15  
 Thr Gly Cys Ile Phe Leu Gly Met His Gly Gly Tyr Ala Ala Glu Val  
 20 25 30  
 Pro Val Thr Ser Ser Gly Tyr Glu Asn Leu Leu Glu Ser Lys Glu Gln  
 35 40 45  
 Asp Pro Ser Gly Leu Ala Ile His Asp Arg Ile Leu Phe Lys Val Asp

50 55 60  
 Glu Glu Asn Val Val Thr Ala Leu Asp Val Ile His Lys Leu Asn Leu  
 65 70 75 80  
 Leu Phe Tyr Asn Ser Tyr Pro His Leu Ile Asp Ser Phe Pro Ala Arg  
 85 90 95  
 Ser Gln Tyr Tyr Thr Ala Met Trp Pro Val Val Leu Glu Ser Val Ile  
 100 105 110  
 Asp Glu Phe Leu Met Val Ala Asp Ala Lys Ala Lys Arg Ile Ala Thr  
 115 120 125  
 Asp Pro Thr Ala Val Asn Gln Glu Ile Glu Glu Met Phe Gly Arg Asp  
 130 135 140  
 Leu Ser Pro Leu Tyr Ala His Phe Glu Met Ser Pro Asn Asp Ile Phe  
 145 150 155 160  
 Asn Val Ile Asp Arg Thr Leu Thr Ala Gln Arg Val Met Gly Met Met  
 165 170 175  
 Val Arg Ser Lys Val Met Leu Lys Val Thr Pro Gly Lys Ile Arg Glu  
 180 185 190  
 Tyr Tyr Arg Lys Leu Glu Glu Glu Ala Ser Arg Lys Val Ile Trp Lys  
 195 200 205  
 Tyr Arg Val Leu Thr Ile Lys Ala Asn Thr Glu Ser Leu Ala Ser Gln  
 210 215 220  
 Ile Ala Asp Lys Val Arg Ala Arg Leu Asn Glu Ala Lys Thr Trp Asp  
 225 230 235 240  
 Lys Asp Arg Leu Thr Ala Leu Val Ile Ser Gln Gly Gly Gln Leu Val  
 245 250 255  
 Cys Ser Glu Glu Phe Ser Arg Glu Asn Ser Glu Leu Ser Gln Ser His  
 260 265 270  
 Lys Gln Glu Leu Asp Leu Ile Gly Tyr Pro Lys Glu Leu Cys Gly Leu  
 275 280 285  
 Pro Lys Ala His Lys Ser Gly Tyr Lys Leu Tyr Met Leu Leu Asp Lys  
 290 295 300  
 Thr Ser Gly Ser Ile Glu Pro Leu Asp Val Met Glu Ser Lys Ile Lys  
 305 310 315 320  
 Gln His Leu Phe Ala Leu Glu Ala Glu Ser Val Glu Lys Gln Tyr Lys  
 325 330 335  
 Asp Arg Leu Arg Lys Arg Tyr Gly Tyr Asp Ala Ser Met Ile Ala Lys  
 340 345 350  
 Leu Leu Ser Glu Glu Ala Pro Pro Leu Phe Ser Leu Leu  
 355 360 365

&lt;210&gt;1134

&lt;211&gt;277

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1134

Val Thr Arg Ser Ser Pro Ala Gln Leu Ser Arg Phe Leu Ser Glu Ile  
 1 5 10 15  
 Gln Asn Lys Pro Lys Lys Ser Leu Ser Gln Asn Phe Leu Val Asp Gln  
 20 25 30  
 Asn Ile Val Lys Lys Ile Val Ala Thr Ser Glu Val Ile Pro Gln Asp  
 35 40 45  
 Trp Val Leu Glu Ile Gly Pro Gly Phe Gly Ala Leu Thr Glu Glu Leu  
 50 55 60  
 Ile Ala Ala Gly Ala Gln Val Ile Ala Ile Glu Lys Asp Pro Met Phe  
 65 70 75 80  
 Ala Pro Ser Leu Glu Glu Leu Pro Ile Arg Leu Glu Ile Ile Asp Ala  
 85 90 95  
 Cys Lys Tyr Pro Leu Asp Gln Leu Gln Glu Tyr Lys Thr Leu Gly Lys  
 100 105 110  
 Gly Arg Val Val Ala Asn Leu Pro Tyr His Ile Thr Thr Pro Leu Leu  
 115 120 125  
 Thr Lys Leu Phe Leu Glu Ala Pro Asp Phe Trp Lys Thr Val Thr Val  
 130 135 140  
 Met Val Gln Asp Glu Val Ala Arg Arg Ile Val Ala Gln Pro Gly Gly  
 145 150 155 160

Arg Asp Tyr Gly Ser Leu Thr Ile Phe Leu Gln Phe Phe Ala Asp Ile  
 165 170 175  
 His Tyr Ala Phe Lys Val Ser Ala Ser Cys Phe Tyr Pro Lys Pro Gln  
 180 185 190  
 Val Gln Ser Ala Val Ile His Met Lys Val Lys Glu Thr Leu Pro Leu  
 195 200 205  
 Ser Asp Glu Glu Ile Pro Val Phe Phe Thr Leu Thr Arg Thr Ala Phe  
 210 215 220  
 Gln Gln Arg Arg Lys Val Leu Ala Asn Thr Leu Lys Gly Leu Tyr Pro  
 225 230 235 240  
 Lys Glu Gln Val Glu Gln Ala Leu Lys Glu Leu Gly Leu Leu Leu Asn  
 245 250 255  
 Val Arg Pro Glu Val Leu Ser Leu Asn Asp Tyr Leu Ala Leu Phe His  
 260 265 270  
 Lys Met Gln Ala Gly  
 275

&lt;210&gt;1135

&lt;211&gt;644

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1135

Met Thr Ser Ser Ser Cys Pro Leu Leu Asp Leu Ile Leu Ser Pro Ala  
 1 5 10 15  
 Asp Leu Lys Lys Leu Ser Ile Ser Gln Leu Pro Gly Leu Ala Glu Glu  
 20 25 30  
 Ile Arg Tyr Arg Ile Ile Ser Val Leu Ser Gln Thr Gly Gly His Leu  
 35 40 45  
 Ser Ser Asn Leu Gly Ile Val Glu Leu Thr Ile Ala Leu His Tyr Val  
 50 55 60  
 Phe Ser Ser Pro Lys Asp Lys Phe Ile Phe Asp Val Gly His Gln Thr  
 65 70 75 80  
 Tyr Pro His Lys Leu Leu Thr Gly Arg Asn Asn Glu Gly Phe Asp His  
 85 90 95  
 Ile Arg Asn Asp Asn Gly Leu Ser Gly Phe Thr Asn Pro Thr Glu Ser  
 100 105 110  
 Asp His Asp Leu Phe Phe Ser Gly His Ala Gly Thr Ala Leu Ser Leu  
 115 120 125  
 Ala Leu Gly Met Ala Gln Thr Thr Pro Leu Glu Ser Arg Thr His Val  
 130 135 140  
 Ile Pro Ile Leu Gly Asp Ala Ala Phe Ser Cys Gly Leu Thr Leu Glu  
 145 150 155 160  
 Ala Leu Asn Asn Ile Ser Thr Asp Leu Ser Lys Phe Val Val Ile Leu  
 165 170 175  
 Asn Asp Asn Asn Met Ser Ile Ser Lys Asn Val Gly Ala Met Ser Arg  
 180 185 190  
 Ile Phe Ser Arg Trp Leu His His Pro Ala Thr Asn Lys Leu Thr Lys  
 195 200 205  
 Gln Val Glu Lys Trp Leu Ala Lys Ile Pro Arg Tyr Gly Asp Ser Leu  
 210 215 220  
 Ala Lys His Ser Arg Arg Leu Ser Gln Cys Val Lys Asn Leu Phe Cys  
 225 230 235 240  
 Pro Thr Pro Leu Phe Glu Gln Phe Gly Leu Ala Tyr Val Gly Pro Ile  
 245 250 255  
 Asp Gly His Asn Val Lys Lys Leu Ile Pro Ile Leu Gln Ser Val Arg  
 260 265 270  
 Asn Leu Pro Phe Pro Ile Leu Val His Val Cys Thr Thr Lys Gly Lys  
 275 280 285  
 Gly Leu Asp Gln Ala Gln Asn Asn Pro Ala Lys Tyr His Gly Val Arg  
 290 295 300  
 Ala Asn Phe Asn Lys Arg Glu Ser Ala Lys His Leu Pro Ala Ile Lys  
 305 310 315 320  
 Pro Lys Pro Ser Phe Pro Asp Ile Phe Gly Gln Thr Leu Cys Glu Leu  
 325 330 335  
 Gly Glu Val Ser Ser Arg Leu His Val Val Thr Pro Ala Met Ser Ile

340 345 350  
 Gly Ser Arg Leu Glu Gly Phe Lys Gln Lys Phe Pro Glu Arg Phe Phe  
 355 360 365  
 Asp Val Gly Ile Ala Glu Gly His Ala Val Thr Phe Ser Ala Gly Ile  
 370 375 380  
 Ala Lys Ala Gly Asn Pro Val Ile Cys Ser Ile Tyr Ser Thr Phe Leu  
 385 390 395 400  
 His Arg Ala Leu Asp Asn Val Phe His Asp Val Cys Met Gln Asp Leu  
 405 410 415  
 Pro Val Ile Phe Ala Ile Asp Arg Ala Gly Leu Ala Tyr Gly Asp Gly  
 420 425 430  
 Arg Ser His His Gly Ile Tyr Asp Met Ser Phe Leu Arg Ala Met Pro  
 435 440 445  
 Gln Met Ile Ile Cys Gln Pro Arg Ser Gln Val Val Phe Gln Gln Leu  
 450 455 460  
 Leu Tyr Ser Ser Leu His Trp Ser Ser Pro Ser Ala Ile Arg Tyr Pro  
 465 470 475 480  
 Asn Ile Pro Ala Pro His Gly Asp Pro Leu Thr Gly Asp Pro Asn Phe  
 485 490 495  
 Leu Arg Ser Pro Gly Asn Ala Glu Thr Leu Ser Gln Gly Glu Asp Val  
 500 505 510  
 Leu Ile Ile Ala Leu Gly Thr Leu Cys Phe Thr Ala Leu Ser Ile Lys  
 515 520 525  
 His Gln Leu Leu Ala Tyr Gly Ile Ser Ala Thr Val Val Asp Pro Ile  
 530 535 540  
 Phe Ile Lys Pro Phe Asp Asn Asp Leu Phe Ser Leu Leu Met Ser  
 545 550 555 560  
 His Ser Lys Val Ile Thr Ile Glu Glu His Ser Ile Arg Gly Gly Leu  
 565 570 575  
 Ala Ser Glu Phe Asn Asn Phe Val Ala Thr Phe Asn Phe Lys Val Asp  
 580 585 590  
 Ile Leu Asn Phe Ala Ile Pro Asp Thr Phe Leu Ser His Gly Ser Lys  
 595 600 605  
 Glu Ala Leu Thr Lys Ser Ile Gly Leu Asp Glu Ser Ser Met Thr Asn  
 610 615 620  
 Arg Ile Leu Thr His Phe Asn Phe Arg Ser Lys Lys Gln Thr Val Gly  
 625 630 635 640  
 Asp Val Arg Val

&lt;210&gt;1136

&lt;211&gt;127

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1136

Ala Ser Pro Ala Arg Ser Ile Ala Lys Ile Thr Gly Arg Ser Cys Met  
 1 5 10 15  
 Gln Thr Ser Trp Lys Thr Leu Ser Arg Ala Arg Cys Lys Asn Val Glu  
 20 25 30  
 Tyr Ile Glu Gln Ile Thr Gly Leu Pro Ala Phe Ala Met Pro Ala Leu  
 35 40 45  
 Lys Val Thr Ala Trp Pro Ser Ala Ile Pro Thr Ser Lys Lys Arg Ser  
 50 55 60  
 Gly Asn Phe Cys Leu Lys Pro Ser Lys Arg Asp Pro Ile Asp Ile Ala  
 65 70 75 80  
 Gly Val Thr Thr Trp Arg Arg Glu Glu Thr Ser Pro Ser Ser His Ser  
 85 90 95  
 Val Trp Pro Asn Ile Ser Gly Lys Glu Gly Leu Gly Leu Ile Ala Gly  
 100 105 110  
 Arg Cys Phe Ala Asp Ser Arg Leu Leu Lys Phe Ala Leu Thr Pro  
 115 120 125

&lt;210&gt;1137

&lt;211&gt;554

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1137

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Met Ser Ser Pro Pro Gln Ala Val Ala Ser Leu Thr Glu Arg Ile Lys
  1      5      10      15
Thr Leu Leu Glu Ser Asn Phe Cys Gln Ile Ile Val Lys Gly Glu Leu
      20      25      30
Ser Asn Val Ser Leu Gln Pro Ser Gly His Leu Tyr Phe Gly Ile Lys
      35      40      45
Asp Ser Gln Ala Phe Leu Asn Gly Ala Phe Phe His Phe Lys Ser Lys
      50      55      60
Tyr Tyr Asp Arg Lys Pro Lys Asp Gly Asp Ala Val Ile Ile His Gly
      65      70      75      80
Lys Leu Ala Val Tyr Ala Pro Arg Gly Gln Tyr Gln Ile Val Ala His
      85      90      95
Ala Leu Val Tyr Ala Gly Glu Gly Asp Leu Leu Gln Lys Phe Glu Glu
      100      105      110
Thr Lys Arg Arg Leu Thr Ala Glu Gly Tyr Phe Ala Thr Glu Lys Lys
      115      120      125
Lys Pro Leu Pro Phe Ala Pro Gln Cys Ile Gly Val Ile Thr Ser Pro
      130      135      140
Thr Gly Ala Val Ile Gln Asp Ile Leu Arg Val Leu Ser Arg Arg Ala
      145      150      155      160
Arg Asn Tyr Lys Ile Leu Val Tyr Pro Val Thr Val Gln Gly Asn Ser
      165      170      175
Ala Ala His Glu Ile Ser Lys Ala Ile Glu Val Met Asn Ala Glu Asn
      180      185      190
Leu Ala Asp Val Leu Ile Ile Ala Arg Gly Gly Gly Ser Ile Glu Asp
      195      200      205
Leu Trp Ala Phe Asn Glu Glu Ile Leu Val Lys Ala Ile His Ala Ser
      210      215      220
Thr Ile Pro Ile Val Ser Ala Val Gly His Glu Thr Asp Tyr Thr Leu
      225      230      235      240
Cys Asp Phe Ala Ser Asp Val Arg Ala Pro Thr Pro Ser Ala Ala Ala
      245      250      255
Glu Ile Val Cys Lys Ser Ser Glu Glu Gln Val Gln Val Phe Glu Gly
      260      265      270
Tyr Leu Arg His Leu Leu Ser His Ser Arg Gln Leu Leu Thr Ser Lys
      275      280      285
Lys Gln Gln Leu Leu Pro Trp Arg Arg Phe Leu Asp Arg Ala Glu Phe
      290      295      300
Tyr Thr Thr Ala Gln Gln Leu Asp Ser Ile Glu Ile Ala Ile Gln
      305      310      315      320
Lys Gly Val Gln Gly Lys Ile His Glu Ser Lys Gln Arg Tyr Asp Asn
      325      330      335
Ile Ser Arg Trp Leu Gln Gly Asp Leu Val Ser Arg Met Thr Cys Arg
      340      345      350
Leu Gln Ser Leu Lys Lys Met Leu Ser Gln Ala Leu Ser His Lys Ala
      355      360      365
Leu Ser Leu Gln Val Arg Cys His Gln Leu Lys Lys Ser Leu Thr Tyr
      370      375      380
Pro Arg Gln Ile Gln Gln Ala Ser Gln Lys Leu Ser Pro Trp Arg Gln
      385      390      395      400
Gln Leu Asp Thr Leu Ile Ser Arg Arg Leu His Tyr Gln Lys Glu Glu
      405      410      415
Tyr Phe His Lys His Thr Arg Leu Lys His Ala His Asn Val Leu Glu
      420      425      430
Gln Gln Leu Arg Ser His Val Gln Lys Leu Glu Leu Leu Gly Arg Arg
      435      440      445
Leu Ser Arg Gly Cys Glu Leu Asn Leu Gln Asn Gln Lys Ile Ala Tyr
      450      455      460
Ala Asn Val Lys Glu Thr Leu Ala Thr Ile Leu Glu Arg Arg Tyr Glu
      465      470      475      480
Asn Ser Val Ala Arg Tyr Ser Ala Leu Lys Glu Gln Leu His Ser Leu
      485      490      495
Asn Pro Lys Asn Val Leu Lys Arg Gly Tyr Ala Met Leu Phe Asp Phe

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500 505 510  
 Asn Glu Asn Ser Ala Met Ile Ser Val Asp Ser Leu Gln Glu Asn Ala  
 515 520 525  
 Arg Val Arg Ile Gln Leu Gln Asp Gly Glu Ala Ile Leu Thr Val Thr  
 530 535 540  
 Asn Ile Glu Ile Cys Lys Leu Ile Lys Gly  
 545 550  
 <210>1138  
 <211>184  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1138  
 Met Thr Tyr Ala Gln Val Glu Val Leu Met Ala Thr Pro Asp Ile Ser  
 1 5 10 15  
 Lys Tyr His Gly Leu Arg Asp Arg Cys Leu Met Glu Leu Phe Tyr Ser  
 20 25 30  
 Ser Gly Leu Arg Ile Ser Glu Ile Val Ala Val Asn Lys Gln Asp Phe  
 35 40 45  
 Asp Leu Ser Thr His Leu Ile Arg Ile Arg Gly Lys Gly Lys Lys Glu  
 50 55 60  
 Arg Ile Ile Pro Val Thr Ser Asn Ala Ile Gln Trp Ile Gln Ile Tyr  
 65 70 75 80  
 Leu Asn His Pro Asp Arg Lys Arg Leu Glu Lys Asp Pro Gln Ala Ile  
 85 90 95  
 Phe Leu Asn Arg Phe Gly Arg Arg Ile Ser Thr Arg Ser Ile Asp Arg  
 100 105 110  
 Ser Phe Gln Glu Tyr Leu Arg Arg Ser Gly Leu Ser Gly His Ile Thr  
 115 120 125  
 Pro His Thr Ile Arg His Thr Ile Ala Thr His Trp Leu Glu Ser Gly  
 130 135 140  
 Met Asp Leu Lys Thr Ile Gln Ala Leu Leu Gly His Ser Ser Leu Glu  
 145 150 155 160  
 Thr Thr Thr Val Tyr Thr Gln Val Ser Val Lys Leu Lys Lys Gln Thr  
 165 170 175  
 His Gln Glu Ala His Pro His Ala  
 180

&lt;210&gt;1139

&lt;211&gt;288

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1139

Met Ser His Leu Ile Pro Ser Leu Arg Asn Ser Val Thr Ser Tyr Phe  
 1 5 10 15  
 His Lys Pro Gln Pro Ile Lys Gln Ala Ala Pro Ser Lys Ser Ile Arg  
 20 25 30  
 Asp Ile Cys Asn Ile Ala Tyr Leu Ile Ile Ile Cys Val Leu Val Val  
 35 40 45  
 Val Val Leu Val Gly Ala Met Leu Cys Met Phe Ile Pro Ser Val Gly  
 50 55 60  
 Ile Pro Leu Cys Leu Ser Ser Leu Ala Leu Leu Val Leu Leu Ser Ile  
 65 70 75 80  
 Phe Asn Pro Cys Leu Ile Asn Trp Ile Ser Thr Lys Lys Thr Lys Glu  
 85 90 95  
 Ile Ala Pro Lys Asp Ala Ser Glu Ser Gln Pro Thr Lys Ser Ala Ser  
 100 105 110  
 Arg Lys Gly Ser Pro Gln Leu Ser Pro His His Asp His Glu Pro Lys  
 115 120 125  
 Asn Phe Ile Arg Thr Gln Leu Glu Lys Gly Val Asn Tyr Val Thr Asn  
 130 135 140  
 Lys Phe Lys Ser Gly Glu Glu Ser Pro His Ile Ser Asp Glu His His  
 145 150 155 160  
 Ser Pro Arg Gln Ser Lys Arg Ser Ser Glu Ile Glu Ser Ser Asp Glu  
 165 170 175  
 Ser Ser Pro Glu Leu His Arg Lys Ala Lys Gly Lys Ala Pro His Thr

180 185 190  
 Ala Thr Thr Lys Gly Ser Lys Thr Ser Thr Thr Glu Ser Ser Lys Lys  
 195 200 205  
 Lys Lys Lys Thr Lys His Ser Leu His Arg Thr Thr Ser Ser Ile His  
 210 215 220  
 Lys Arg Ser Ala Pro Lys Pro Met Val Pro Ser Lys Lys Arg Lys Pro  
 225 230 235 240  
 Val Leu Leu Lys Lys Thr Val Pro Leu Pro Ile Glu Asp Leu Glu His  
 245 250 255  
 Gln Ser Ser Gly Asn Glu Ser Ser Asp Ser Ser Ser Pro Pro Pro Val  
 260 265 270  
 Gln Arg Lys Ala Ile Leu Pro Trp Phe Cys Lys Gln Pro Thr Asp Pro  
 275 280 285

&lt;210&gt;1140

&lt;211&gt;153

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1140

Met Leu Arg Arg Arg Ile Trp Lys Lys Thr Leu Thr Pro Asp Gln Glu  
 1 5 10 15  
 Asn Leu Ser Leu Pro Leu Pro Ser Pro Thr Thr Leu Lys Lys Ile His  
 20 25 30  
 Ala Leu His Ile Leu Val Arg Ser Gly Lys Thr Tyr Asn Glu Leu Ile  
 35 40 45  
 Gln Glu Gly Phe Ser Phe Thr Lys Ile Thr Asp Leu Gly Gln Ala Pro  
 50 55 60  
 Ser Pro Lys Gln Asp Ile Gly Phe Ser Tyr Asn Ser Leu Leu Pro Asn  
 65 70 75 80  
 Phe Tyr Phe His Ser Leu Val Ser Val Pro Asn Ile Ser Gly Glu Glu  
 85 90 95  
 Arg Ala Leu Asn Tyr His Lys Glu Gln Gln Glu Glu Met Ala Val Lys  
 100 105 110  
 Leu Lys Thr Met Gln Ala Cys Ser Phe Val Phe Arg Ser Leu His Leu  
 115 120 125  
 Pro Ser Met Gln Thr Lys Asp Lys Lys Ala Gly Phe Gly Leu Leu Thr  
 130 135 140  
 Phe Phe Pro Trp Lys Ile Tyr Pro Leu  
 145 150

&lt;210&gt;1141

&lt;211&gt;136

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1141

Leu Ala Met Ala Lys Asn Val Pro Leu Leu Gly Tyr Ser Ser Leu Glu  
 1 5 10 15  
 Gly Tyr Leu Leu Ser Lys Asp Glu Lys Lys Ala Leu Met Leu Pro Leu  
 20 25 30  
 Gly Lys Arg Gly Gly Val Leu Thr Leu Ser Ser Glu Ile Pro Glu Glu  
 35 40 45  
 Gly Leu Asn Glu Lys Arg Arg Gly Val Gly Pro Gly Ala Leu Leu Ser  
 50 55 60  
 Tyr Glu Glu Ala Ser Asp Tyr Cys Val Ala His Gly Tyr Tyr His Val  
 65 70 75 80  
 Ile Ser Pro Asn Pro Gln Leu Phe Ala Ser Ser Phe Ser Asp Lys Ile  
 85 90 95  
 Thr Val Glu Glu Val Ala Pro Ser Val Glu Gln Ile Arg Arg His Val  
 100 105 110  
 Ile Ser Gln Phe Met Phe Val Glu Tyr Asp Lys Gln Leu Ser Pro Asp  
 115 120 125  
 Tyr Arg Ser Tyr Ser Cys Ile Phe  
 130 135

&lt;210&gt;1142

&lt;211&gt;82

&lt;212&gt;PRT

<213>Chlamydia p oniae  
 <400>1142  
 Met Ile Glu Phe Pro Ser Ala Val Trp Met Ile Glu Glu Ile Leu Pro  
   1                  5                  10                  15  
 Glu Cys Asp Phe Leu Ser Ile Gly Thr Asn Asp Leu Val Gln Tyr Thr  
           20                  25                  30  
 Leu Gly Ile Ser Arg Glu Ser Ala Leu Pro Lys His Leu Asn Val Thr  
           35                  40                  45  
 Leu Pro Pro Ala Val Ile Arg Met Ile His His Val Leu Gln Ala Ala  
           50                  55                  60  
 Asn Lys Ile Arg Phe Leu Leu Ala Phe Val Glu Arg Pro Gln Gly Ser  
   65                  70                  75                  80  
 Ser Val

<210>1143

<211>108

<212>PRT

<213>Chlamydia pneumoniae

<400>1143

Leu Phe Asp Ala Leu His Ile Ser Leu His Arg Asn Ile Pro Arg Met  
   1                  5                  10                  15  
 Gly Asn His Glu Thr Tyr Ile His Pro Gly Val Leu Pro Ser Ser His  
           20                  25                  30  
 Ala Gln Asp Val Ser Arg Ser Thr Val Tyr Pro Ser Arg Ser Phe Ile  
           35                  40                  45  
 Met Arg Arg Met Leu Met Gly Trp Asn Phe Asn Arg Val Pro Ser Lys  
   50                  55                  60  
 Ser Ser Glu Gln Leu Met Asp Gly His Arg Ile Pro Leu Ile Phe Phe  
   65                  70                  75                  80  
 Gly Lys His His Pro Thr Ile Ser Ile Leu Asn Val Asn Arg Phe Ser  
                   85                  90                  95  
 Trp Leu Ser Ile Phe Tyr Asn Gly Glu Arg Gly Phe  
           100                  105

<210>1144

<211>141

<212>PRT

<213>Chlamydia pneumoniae

<400>1144

Met Ala Thr Lys Thr Lys Thr Gln Trp Thr Cys Asn Gln Cys Gly Ala  
   1                  5                  10                  15  
 Thr Ala Pro Lys Trp Leu Gly Gln Cys Pro Gly Cys His Asn Trp Asn  
           20                  25                  30  
 Ser Leu Val Glu Glu Tyr Val Pro Gln Ala Arg Ser Gly Thr Ser Ser  
           35                  40                  45  
 Arg Ser Ser Thr Ser Ala Ile Ala Leu Ser Ser Ile Glu Leu Glu Asn  
   50                  55                  60  
 Glu Ser Arg Ile Phe Ile Asp His Ala Gly Trp Asp Arg Ile Leu Gly  
   65                  70                  75                  80  
 Gly Gly Val Val Arg Gly Ser Leu Thr Leu Leu Gly Gly Asp Pro Gly  
                   85                  90                  95  
 Ile Gly Lys Ser Thr Leu Leu Leu Gln Thr Ala Glu Arg Leu Ala Ser  
           100                  105                  110  
 Gln Lys Tyr Lys Val Leu Tyr Val Cys Gly Glu Glu Ser Val Thr Gln  
           115                  120                  125  
 Thr Ser Leu Arg Ala Lys Arg Ser Ile Ser His His Leu  
   130                  135                  140

<210>1145

<211>77

<212>PRT

<213>Chlamydia pneumoniae

<400>1145

Met Thr Lys Ile Gln Cys Ser Ala Gln Tyr Tyr Arg Ser Arg Pro Ala  
   1                  5                  10                  15  
 Glu Arg Ala Gln Thr Pro Pro Gln Pro Phe Leu Ala Arg Asp Arg Ala



20 25  
 Asp Phe Trp Glu Arg His Pro Arg Phe Ser Ala Cys Cys Arg Val Leu  
 35 40 45  
 Leu Leu Val Ala Trp Val Val Leu Ala Leu Leu Phe Leu Phe Val Met  
 50 55 60  
 Leu Leu Pro Leu Ala Ala Gly Ser Tyr Leu Leu Ala Phe  
 65 70 75

&lt;210&gt;1146

&lt;211&gt;121

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1146

Leu Thr Tyr Thr Arg Val Asn Asp Gly His Leu Ala Pro Phe Arg Ala  
 1 5 10 15  
 Gly Ala Lys Trp Ile Leu Ile His Tyr Val Arg Leu Arg Arg Gln His  
 20 25 30  
 Asn Gln Asn Asp Phe Phe Thr Pro Gly His Ser Cys Tyr Tyr Ala Arg  
 35 40 45  
 Leu Ala Phe Asn Gln Thr Gln Arg Leu Tyr His Gln Leu Phe Asn Val  
 50 55 60  
 Glu Lys Leu Arg Ser Ile Tyr Ala Asn Met Asp Lys Asp Pro Leu Cys  
 65 70 75 80  
 His Pro Trp Ala Xaa Ile Pro Ile Tyr Asp Leu Leu Lys Thr Glu Asp  
 85 90 95  
 His Gly Asp Gly Phe Leu Glu Gln Gln Asp Arg Glu Tyr Pro Ser  
 100 105 110  
 Arg Ala Ala Gln Asp Gln Phe Trp Gly  
 115 120

&lt;210&gt;1147

&lt;211&gt;170

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1147

Val Ser Ala Glu Phe Lys Leu Met Leu Asp Leu Arg Gln Tyr Met Gly  
 1 5 10 15  
 Ser Val Met Gln Arg Leu Gly Leu Ser Asn Leu Phe His Cys Leu Leu  
 20 25 30  
 Leu Phe Leu Arg Tyr Tyr Tyr Ser Lys Leu Val Phe Gly Leu Thr Val  
 35 40 45  
 Leu Leu Ala Ala Ile Ser Val Ile Cys Leu Leu Gly Cys Ser Glu Pro  
 50 55 60  
 Ser Leu Ser Ser Phe Thr Glu Tyr Val Gly Pro Glu Tyr Ser Ala Ala  
 65 70 75 80  
 Ala Gln Leu Ser Ile Glu Gln Ser Cys His Asp Glu Val Tyr Gly Gln  
 85 90 95  
 Gln Val Val Val Thr Trp Ser Leu Pro Ser Arg Met Arg Lys Cys Leu  
 100 105 110  
 Pro Val Thr Leu Tyr Leu Trp Val Tyr Tyr Gly Asn Gly Lys Val Glu  
 115 120 125  
 Lys Leu Thr Tyr Glu Val Asn Gln Ser Ala Gly Tyr Arg Val Tyr Cys  
 130 135 140  
 Leu Lys Gly Leu Glu Tyr Lys Glu Leu Gln Gly Ile Ile Ser Tyr Pro  
 145 150 155 160  
 Leu Arg Tyr Val Ala Gly Ile Lys Arg Leu  
 165 170

&lt;210&gt;1148

&lt;211&gt;101

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1148

Met Val Ser Pro Leu Ser Leu Phe His Lys Met Leu Leu Glu Asn Trp  
 1 5 10 15  
 Thr Pro Val Glu Glu Pro Phe Pro Trp Pro Pro Ala Glu Lys Asn Gln  
 20 25 30

Lys Ile Phe Ala Trp Ala Leu Asn Gln Ser Lys Leu Ile Phe Val Ser  
                   35                  40                  45  
 Thr Ser Gly Asn Ile Ala Gln Pro Arg Leu Val Thr Asp Ser Met Ser  
           50                  55                  60  
 Met Met Ile Val Asn Ala Ala Asn Arg Thr Met Ser Arg Asp Gly Ala  
       65                  70                  75                  80  
 Gly Thr Asn Gln Val Leu Ser Ala Ala Val Ser Val Asp Ser Trp Gly  
                   85                  90                  95  
 Cys Arg Asn Asp Leu  
                   100

&lt;210&gt;1149

&lt;211&gt;119

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1149

Val Ala Leu Lys Ile Arg Leu Arg Gln Gln Gly Arg Arg Asn His Val  
   1                  5                  10                  15  
 Val Tyr Arg Leu Val Leu Ala Asp Val Glu Ser Pro Arg Asp Gly Lys  
           20                  25                  30  
 Tyr Ile Glu Leu Leu Gly Trp Tyr Asp Pro His Ser Ser Ile Asn Tyr  
           35                  40                  45  
 Gln Leu Lys Ser Glu Arg Ile Phe Tyr Trp Leu Glu Arg Gly Ala Gln  
       50                  55                  60  
 Leu Ser Ser Lys Ala Glu Ala Leu Val Lys Gln Gly Ala Pro Gly Val  
       65                  70                  75                  80  
 Tyr Ser Ala Leu Leu Ser Lys Gln Glu Ala Arg Lys Leu Val Val Arg  
                   85                  90                  95  
 Lys Lys Arg Arg Ala Tyr Arg Gln Arg Arg Ser Thr Gln Arg Glu Glu  
           100                  105                  110  
 Ala Ala Lys Asp Ala Thr Lys  
                   115

&lt;210&gt;1150

&lt;211&gt;170

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1150

Met Ser Glu Val Lys Pro Leu Phe Leu Lys Asn Asp Ser Phe Asp Leu  
   1                  5                  10                  15  
 Ala Thr Gln Arg Phe Gln Asn Leu Ile Asn Met Leu Gln Glu Gln Ala  
           20                  25                  30  
 Glu Ile Tyr Asn Glu Tyr Glu Glu Lys Asn Ala Arg Val Gln Asn Glu  
           35                  40                  45  
 Ile Lys Glu Gln Lys Asp Phe Val Lys Arg Cys Ile Glu Asp Phe Glu  
       50                  55                  60  
 Ala Arg Gly Leu Gly Val Leu Lys Glu Glu Leu Ala Ser Leu Thr Arg  
       65                  70                  75                  80  
 Asp Phe His Asp Lys Ala Lys Ala Glu Thr Ser Met Leu Ile Glu Cys  
                   85                  90                  95  
 Pro Cys Ile Gly Phe Tyr Tyr Ser Ile His Gln Glu Glu Gln Arg Gln  
           100                  105                  110  
 Arg Gln Glu Arg Leu Gln Lys Met Ala Glu Arg Tyr Arg Asp Cys Lys  
           115                  120                  125  
 Gln Val Leu Glu Ala Val Gln Val Glu Gln Lys Asp Met Ile Ser Ser  
       130                  135                  140  
 Arg Val Val Val Asp Asp Ser Tyr Phe Glu Glu Glu Lys Glu Glu Gln  
       145                  150                  155                  160  
 Lys Val Asp Asn Arg Lys Lys Glu Gln Asp  
                   165                  170

&lt;210&gt;1151

&lt;211&gt;90

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1151

Leu Val Phe Ser Tyr Tyr Cys Met Gly Leu Phe Phe Phe Ser Gly Ala

1 5 10 15  
 Ile Ser Ser Cys Gly Leu Leu Val Ser Leu Gly Val Gly Leu Gly Leu  
 20 25 30  
 Ser Val Leu Gly Val Leu Leu Leu Leu Leu Ala Gly Leu Leu Leu Phe  
 35 40 45  
 Lys Ile Gln Ser Met Leu Arg Glu Val Pro Lys Ala Pro Asp Leu Leu  
 50 55 60  
 Asp Leu Glu Asp Ala Ser Glu Arg Leu Arg Val Lys Ala Ser Arg Ser  
 65 70 75 80  
 Leu Ala Ser Leu Pro Lys Lys Ser Val Ser  
 85 90

&lt;210&gt;1152

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1152

Leu Leu Leu Cys Ser Ala Met Gly Ile Phe Ser Ser Ala Lys Ala Leu  
 1 5 10 15  
 Ile Ala Trp Asn Lys Ala Ser Leu Asn Leu Ser Pro Ala Leu Leu Gly  
 20 25 30  
 Ala Ile Leu Ile Phe Glu Pro Ile Phe Gly Leu Val Leu Thr Tyr Leu  
 35 40 45  
 Tyr Ser Gln Ser Leu Pro Ser Leu Gln Glu Gly Ile Gly Ile Phe Leu  
 50 55 60  
 Met Leu Gly Gly Ser Leu Cys Leu Val Leu Phe Gly Arg Lys Val  
 65 70 75 80  
 Gln Lys Ser Leu Glu Asn Ser Gln Val Ser Ser Ser Asn Glu  
 85 90

&lt;210&gt;1153

&lt;211&gt;248

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1153

Met Phe Pro Ser Ala Asn Gln Glu Ser Arg Thr Arg Asn Val Pro Leu  
 1 5 10 15  
 Gly Ile Phe His Gly Leu Val Ala Cys Leu Tyr Trp Gly Ile Val Phe  
 20 25 30  
 Val Ile Pro Asn Phe Leu Gly Ser Phe Gly Asp Leu Asp Ile Val Leu  
 35 40 45  
 Thr Arg Tyr Thr Ile Phe Gly Ile Phe Ser Leu Ile Ala Cys Ala Ile  
 50 55 60  
 Lys Asn Pro Ser Val Ile Lys Lys Thr Pro Leu Tyr Ile Trp Arg Lys  
 65 70 75 80  
 Ser Leu Leu Trp Thr Leu Leu Ile Asn Pro Val Tyr Tyr Phe Gly Ile  
 85 90 95  
 Thr Leu Gly Ile Arg Tyr Val Gly Ser Ala Ile Thr Val Val Ile Ala  
 100 105 110  
 Ser Leu Ala Pro Thr Ala Val Leu Tyr His Ser Asn Thr Lys Gln Lys  
 115 120 125  
 Glu Leu Pro Tyr Ser Leu Leu Phe Ala Ile Ser Ser Val Ile Ile Thr  
 130 135 140  
 Gly Val Ile Leu Thr His Leu Ser Ala Leu Asn Leu Pro Thr Ala Ala  
 145 150 155 160  
 Ser Pro Leu Tyr Ser Ile Leu Gly Val Ile Ala Val Ile Leu Ser Thr  
 165 170 175  
 Ser Leu Trp Val Ile Tyr Val Ile Arg Asn Gln Ser Leu Leu Glu Lys  
 180 185 190  
 His Pro Xaa Leu Thr Pro Asp Tyr Leu Glu Leu Pro His Arg Asn Gln  
 195 200 205  
 Arg Phe Asp His Leu Pro Pro Tyr Asp Tyr Tyr Ser Arg Ser Leu Trp  
 210 215 220  
 Asn Tyr Pro Arg Asn Thr Gln Ser Tyr Leu Ala Tyr Thr Gly Ile Arg  
 225 230 235 240  
 Ala Thr Ala Leu Leu Val Ala Met

&lt;210&gt;1154

&lt;211&gt;149

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1154

```

Met Ala Val Gln Ser Ile Lys Glu Ala Val Thr Ser Ala Ala Thr Ser
 1           5           10           15
Val Gly Cys Val Asn Cys Ser Arg Glu Ala Ile Pro Ala Phe Asn Thr
           20           25           30
Glu Glu Arg Ala Thr Ser Ile Ala Arg Ser Val Ile Ala Ala Ile Ile
           35           40           45
Ala Val Val Ala Ile Ser Leu Leu Gly Leu Gly Leu Val Val Leu Ala
           50           55           60
Gly Cys Cys Pro Leu Gly Met Ala Ala Gly Ala Ile Thr Met Leu Leu
65           70           75           80
Gly Val Ala Leu Leu Ala Trp Ala Ile Leu Ile Thr Leu Arg Leu Leu
           85           90           95
Asn Ile Pro Lys Ala Glu Ile Pro Ser Pro Gly Asn Asn Gly Glu Pro
           100          105          110
Asn Glu Arg Asn Ser Ala Thr Pro Pro Leu Glu Gly Gly Val Ala Gly
           115          120          125
Glu Ala Gly Arg Gly Gly Gly Ser Pro Leu Thr Gln Leu Asp Leu Asn
130          135          140
Ser Gly Ala Gly Ser
145

```

&lt;210&gt;1155

&lt;211&gt;124

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1155

```

Met Gly Asn Ser Cys Phe Trp Arg Gly Gly Leu Leu Arg Tyr Pro Cys
 1           5           10           15
Gly Glu Glu Ile Glu Lys Ser Arg Ala Asn Phe Phe Thr Ala Asp Thr
           20           25           30
Thr Thr Val Met Ser Tyr Pro Pro Asn Pro Tyr Gly Leu Tyr Asp Met
           35           40           45
Ala Gly Asn Val Tyr Glu Trp Cys Gln Asp Trp Tyr Gly Tyr Asp Phe
           50           55           60
Tyr Glu Ile Ser Ala Gln Glu Pro Glu Ser Pro Gln Gly Pro Ala Gln
65           70           75           80
Gly Val Tyr Arg Val Leu Arg Gly Gly Cys Trp Lys Ser Leu Lys Asp
           85           90           95
Asp Leu Arg Cys Ala His Arg His Arg Asn Asn Pro Gly Ala Val Asn
           100          105          110
Ser Thr Tyr Gly Phe Arg Cys Ala Lys Asn Ile Asn
115          120

```

&lt;210&gt;1156

&lt;211&gt;181

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1156

```

Lys Leu Lys Leu Leu Lys Ala Ser Phe Ile Lys Leu Leu Leu Thr Leu
 1           5           10           15
Asp Trp Pro Thr Glu Leu Leu Leu Lys Asn Arg Pro Phe Asp Phe Thr
           20           25           30
Gly His Pro Glu Glu Glu Lys Leu Ile Lys Asp Ile Leu Leu Lys Glu
           35           40           45
Glu Gly Asn Lys Tyr Phe Ser Leu Glu Ser Lys Lys Leu Leu Ala Arg
           50           55           60
His Met Met His Asn Ile Val Val Leu Ser Glu Glu Pro Gly Arg Ser
65           70           75           80
Ala Phe Leu Gly Arg Thr Ala Phe Phe Pro Asn Lys Tyr Pro Ile Ala
           85           90           95

```

Gln Gly Gly Val Gly Ile Pro Ser Thr Ile Gly Asn Leu Phe Thr Ile  
 100 105 110  
 Trp Tyr Cys Phe Tyr Phe Tyr Arg Ala Ala Thr Pro Gln Ser Asp His  
 115 120 125  
 Pro Asp Gly Cys Gly Phe Ile Leu Leu Glu Arg Leu Lys Glu Leu Gly  
 130 135 140  
 Ala Gly Phe Phe Tyr Cys Asp Leu Arg Glu Ser Asn Thr Thr Gly Phe  
 145 150 155 160  
 Thr Leu Phe Phe Glu Gly Ser Asn Lys Gly Val Leu Lys Asn His Leu  
 165 170 175  
 Phe Ile Arg Asp Glu  
 180

&lt;210&gt;1157

&lt;211&gt;131

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1157

Met Asn Ile Tyr Gln Phe Ser Pro Gly Ala Ser Pro Asn Trp Gln Ala  
 1 5 10 15  
 Ser Leu Met Ala Gln Leu Asn Ser Tyr Phe Cys Leu Gly Gly Glu Thr  
 20 25 30  
 Val Thr Arg Ile Ile Ser Leu Arg Pro Ser Gly Leu Ile Leu Ala Lys  
 35 40 45  
 Lys Glu Lys Ala Val Val Ser Thr Ala Glu Lys Ile Leu Lys Ile Leu  
 50 55 60  
 Ser Phe Ile Leu Phe Pro Leu Val Leu Ile Ala Leu Ala Ile Arg Tyr  
 65 70 75 80  
 Leu Leu Tyr Asn Lys Phe Asn Lys Asp Leu Asp Arg Ala Val Phe Phe  
 85 90 95  
 Ile Pro Thr Glu Ile Thr Lys Ala Glu Leu Ile Ile Ala Lys Asn  
 100 105 110  
 Ser Cys Ala Ser Glu Arg Ser Gly Ser Asn Cys Phe Ser Ala Leu Leu  
 115 120 125  
 Phe Ser Ser  
 130

&lt;210&gt;1158

&lt;211&gt;111

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1158

Met Leu Gln His Leu Phe Ile Asp Gly Ile Thr Gln Glu Asn Pro Glu  
 1 5 10 15  
 Ala Leu Pro Asn Asn Thr Ser Gly Arg Leu Thr Leu Phe Pro Ser Val  
 20 25 30  
 Arg Tyr Ile Tyr Ser His Phe Thr Pro Gln Asn Pro Thr Ile Trp Pro  
 35 40 45  
 Gln Val Phe Phe Arg Gln Gly Pro Leu Asp Glu Asp Arg Gly Gly Gly  
 50 55 60  
 Phe Glu Ile Leu Glu Gln Leu Gln Glu Leu Gly Val Arg Phe Pro Ile  
 65 70 75 80  
 Cys Pro Ser Gln Gly Pro Asp Asn Pro Asn Phe Gln Gly Phe Gln Gly  
 85 90 95  
 Ile Arg Ile Tyr Trp Glu Asp Ser Tyr Gln Pro Asn Lys Glu Val  
 100 105 110

&lt;210&gt;1159

&lt;211&gt;111

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1159

Met Ser Glu Ser Ile Asn Arg Ser Ile His Leu Glu Ala Ser Thr Pro  
 1 5 10 15  
 Phe Phe Ile Lys Leu Thr Asn Leu Cys Glu Ser Arg Leu Val Lys Ile  
 20 25 30  
 Thr Ser Leu Val Ile Ser Leu Leu Ala Leu Val Gly Ala Gly Val Thr

35 40  
 Leu Val Val Leu Phe Val Ala Gly Ile Leu Pro Leu Leu Pro Val Leu  
 50 55 60  
 Ile Leu Glu Ile Ile Leu Ile Thr Val Leu Val Leu Leu Phe Cys Leu  
 65 70 75 80  
 Val Leu Glu Pro Tyr Leu Ile Glu Lys Pro Ser Lys Ile Lys Glu Leu  
 85 90 95  
 Pro Lys Val Asp Glu Leu Ser Val Val Glu Thr Asp Ser Thr Leu  
 100 105 110

&lt;210&gt;1160

&lt;211&gt;75

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1160

Leu Ala Phe Asn Glu Ser Val Arg Ile Tyr Arg Lys Leu Phe Asn Thr  
 1 5 10 15  
 Ala Glu Leu Lys Gln Met Tyr Gly Ala Gly Asp Tyr Glu Gln Gln Asn  
 20 25 30  
 Glu Asp Asn Leu Lys Ser Ile Leu Ser Phe Val Gln Ile Leu Asp Glu  
 35 40 45  
 Lys Asp Gly Phe Asp Asp Phe Leu Ala Thr His Lys Asp Thr Thr Phe  
 50 55 60  
 Ile Gly Arg Gly Gly Ala Asp Ile Phe Cys Ser  
 65 70 75

&lt;210&gt;1161

&lt;211&gt;87

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1161

Met Glu Glu Ala Leu Thr Phe Asp Asp Val Leu Leu Ile Pro Gln Tyr  
 1 5 10 15  
 Ser Glu Ile Leu Pro Ser Glu Val Ser Leu Lys Thr Ala Ile Ser Lys  
 20 25 30  
 Thr Leu Ser Leu Asn Ile Pro Ile Leu Ser Ala Ala Met Asp Ser Val  
 35 40 45  
 Thr Glu Thr Ala Met Ala Leu Ala Leu Ala Gln Glu Gly Gly Leu Gly  
 50 55 60  
 Ile Leu His Lys Asn Met Ser Glu Val Glu Gln Ser Ser Ser Val Arg  
 65 70 75 80  
 Lys Ile Lys Glu Ala Tyr Pro  
 85

&lt;210&gt;1162

&lt;211&gt;91

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1162

Met Asp Phe Ser Val Phe Pro Asp Arg Phe Val Glu Ser Thr Ser Pro  
 1 5 10 15  
 Ser Pro Ile Glu Asp Ile Asp Ala Lys Thr Leu Val Ser Asn Cys Cys  
 20 25 30  
 His Tyr Cys Ser Arg Cys Leu Phe Ile Phe Leu Ser Leu Leu Ser Ile  
 35 40 45  
 Ile Ile Cys Phe Ser Val Tyr Gly Thr Ser Gly Glu Thr Ala Ser Leu  
 50 55 60  
 Val Phe Gly Ile Leu Ser Leu Ile Val Leu Val Leu Leu Ile Ile Glu  
 65 70 75 80  
 Cys Arg Asn Arg Glu Cys Cys Arg Arg Ile Ser  
 85 90

&lt;210&gt;1163

&lt;211&gt;95

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1163

Leu Gln Ala Gly Arg Ser Gly Ile Ile Pro Gly Lys Lys Ala Ile Leu

1	5	10	15
Leu Asn Val Asn Asp Ala Lys Thr Pro Asn Tyr Ser Cys Ile Phe Glu			
	20	25	30
Ser Ile Gly Phe Phe Asn Glu Gln Asp Leu Glu Ala Gln His Asn Gln			
	35	40	45
Gln Ala Ala Leu Val Arg Lys Ile Leu Lys Val Val Pro His His Phe			
	50	55	60
Leu Lys Gly Leu Ile Ala Lys Leu Pro Arg Ser Leu Lys Lys Asp Arg			
	65	70	75
Lys Phe Met Ser Ser Leu Ile Phe Thr Lys Leu Ser Tyr Cys Phe			
	85	90	95

&lt;210&gt;1164

&lt;211&gt;95

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1164

Met Met Lys Ile Lys Lys Ala Ile Ser Arg His Ile Asp Arg Tyr Leu			
1	5	10	15
Ser Pro Met Lys Ile Pro Ile Met Ala His Pro Gly Gln Lys Asp Ser			
	20	25	30
Pro Ser Thr Leu Ser Phe His Phe Pro Leu Ser Tyr Trp Phe Lys Glu			
	35	40	45
Leu Ser Ser His Gly Phe Leu Val Ser Gly Leu Glu Glu Trp Thr Ser			
	50	55	60
Ser Lys Thr Ser Thr Gly Lys Arg Ala Lys Ala Glu Asn Leu Cys Arg			
	65	70	75
Lys Glu Phe Pro Leu Phe Leu Met Ile Ser Cys Ile Lys Ile Lys			
	85	90	95

&lt;210&gt;1165

&lt;211&gt;238

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1165

Met Glu Asn Leu Ser Ser Ala Pro Ser Arg Ser Ile Trp Lys Ser Ile			
1	5	10	15
Ile Gln Asn Lys Met Leu Val Leu Gly Leu Thr Thr Leu Ile Ile Leu			
	20	25	30
Met Leu Gly Ala Leu Leu Leu Pro Trp Phe Tyr Gln Asp Tyr Glu Gln			
	35	40	45
Thr Ser Leu Lys Asp Ile Leu Val Ser Pro Cys Ser Arg Phe Pro Phe			
	50	55	60
Gly Thr Asp Thr Leu Gly Arg Cys Met Phe Ala Arg Thr Leu Arg Gly			
	65	70	75
Leu Arg Leu Ser Leu Leu Ile Ala Thr Ile Ala Thr Leu Ile Asp Val			
	85	90	95
Cys Val Gly Leu Leu Trp Ala Thr Val Ala Ile Ser Gly Gly Lys Lys			
	100	105	110
Ile Asp Phe Leu Met Met Arg Thr Thr Glu Ile Leu Phe Ser Leu Pro			
	115	120	125
Arg Ile Pro Ile Ile Ile Leu Leu Val Ile Phe His His Gly Leu			
	130	135	140
Leu Pro Leu Ile Leu Ala Met Thr Ile Thr Gly Trp Ile Pro Ile Ser			
	145	150	155
Arg Ile Ile Tyr Gly Gln Phe Leu Leu Leu Lys Asn Lys Pro Phe Val			
	165	170	175
Leu Ser Ala Lys Ala Met His Ala Ser Thr Phe His Ile Leu Lys Lys			
	180	185	190
His Leu Leu Pro Asn Thr Leu Ala Pro Ile Ile Ser Thr Leu Ile Phe			
	195	200	205
Thr Ile Pro Asn Ala Ile Tyr Thr Glu Ala Phe Ile Ser Phe Leu Gly			
	210	215	220
Leu Gly Ile Gln Pro Pro Gln Ala Lys Pro Arg His Leu Ser			
	225	230	235

&lt;210&gt;1166

&lt;211&gt;211

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1166

```

Met Gly Pro Leu Lys Lys Glu Glu Lys Thr Ile Leu Met Ile Phe Phe
 1          5          10          15
Leu Leu Val Val Leu Trp Thr Phe Gly Asp Leu Leu Gly Ile Ser Ala
          20          25          30
Thr Thr Ala Ala Leu Ile Gly Leu Ser Leu Leu Ile Leu Thr Asn Ile
          35          40          45
Leu Asp Trp Gln Lys Asp Val Ile Ala Asn Thr Thr Ala Trp Glu Thr
          50          55          60
Phe Ile Trp Phe Gly Ala Leu Ile Met Met Ala Ser Phe Leu Asn Gln
          65          70          75          80
Leu Gly Phe Ile Pro Leu Val Gly Asp Ser Ala Ala Ala Leu Val Ser
          85          90          95
Gly Leu Ser Trp Lys Ile Gly Phe Pro Leu Leu Phe Leu Ile Tyr Phe
          100          105          110
Tyr Ser His Tyr Leu Phe Ala Ser Asn Thr Ala His Ile Gly Ala Met
          115          120          125
Tyr Pro Ile Phe Leu Ala Val Ser Ile Ser Leu Gly Thr Asn Pro Ile
          130          135          140
Phe Ala Ala Leu Thr Leu Ala Phe Ala Ser Asn Leu Phe Gly Gly Leu
          145          150          155          160
Thr His Tyr Gly Ser Gly Pro Ala Pro Leu Tyr Phe Gly Ser His Leu
          165          170          175
Val Thr Val Gln Glu Trp Trp Arg Ser Gly Phe Ala Leu Ser Ile Val
          180          185          190
Asn Ile Val Ile Trp Ile Gly Ile Gly Ser Leu Trp Trp Lys Ala Leu
          195          200          205
Gly Leu Ile
          210

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&lt;210&gt;1167

&lt;211&gt;81

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1167

```

Leu Lys Met Glu Thr Tyr Ser Phe Ser Thr Glu Leu Gln Lys Asn Thr
 1          5          10          15
Ser Leu Tyr Ile Met Glu Lys Leu Asp Ser Tyr Phe Ser Phe Gln Gly
          20          25          30
Lys Arg Thr Arg Val Ile Ala Ile Thr Pro Ala Gly Leu Ala Ile Ala
          35          40          45
Tyr Glu Gln Asn Ile His Leu Ser Met Thr Val Lys Ile Leu Lys Val
          50          55          60
Leu Ser Phe Pro Arg Ser Leu Leu Arg Thr Thr Ser Leu Trp Tyr Arg
          65          70          75          80
Pro

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&lt;210&gt;1168

&lt;211&gt;228

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1168

```

Leu Lys Gly Phe Leu Ser Val Asn Glu Leu Ile Phe Gly Phe Gln Thr
 1          5          10          15
Phe Ser Val Val Val Leu Gly Val Phe Phe Ala Ser Arg Gly Lys Ala
          20          25          30
Trp Leu Thr Gly Trp Leu Ser Leu Leu Ser Ser Ile Met Asn Val Phe
          35          40          45
Val Leu Lys Gln Ile His Leu Trp Gly Phe Glu Val Thr Ser Ala Asp
          50          55          60
Val Tyr Val Ile Gly Leu Leu Thr Cys Leu Asn Tyr Ala Arg Glu His
          65          70          75          80

```



Tyr Glu Lys Asn Asp Ile Asn Asp Ala Met Leu Cys Ser Trp Ile Ile  
 85 90 95  
 Ser Ile Ala Phe Leu Val Leu Thr Gln Leu His Leu Phe Leu Ile Pro  
 100 105 110  
 Ser Pro Asn Asp Ser Ser Gln Glu His Phe Leu Ala Leu Phe Ser Ser  
 115 120 125  
 Thr Pro Arg Ile Val Val Ala Ser Leu Val Thr Leu Ile Phe Val Gln  
 130 135 140  
 Ile Val Asp Ile Lys Leu Phe Thr Phe Leu Gln Arg Val Phe Ser Lys  
 145 150 155 160  
 Lys Tyr Phe Ala Met Arg Ser Thr Ile Ser Leu Leu Phe Ser Gln Leu  
 165 170 175  
 Ile Asp Thr Ile Ile Phe Ser Phe Leu Gly Leu Tyr Gly Leu Val Ser  
 180 185 190  
 Asn Leu Cys Asp Val Met Ile Phe Ala Met Leu Val Lys Gly Ile Val  
 195 200 205  
 Ile Thr Leu Ala Ile Pro Thr Leu Thr Val Thr Lys Ala Val Leu Asp  
 210 215 220  
 Arg Arg Ser Ser  
 225

&lt;210&gt;1169

&lt;211&gt;189

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1169

Leu Gly Ile Phe Cys Phe Lys Lys Ile Asn Leu Phe Lys Thr Phe Ile  
 1 5 10 15  
 Leu Met Asn Asn Asn Val Tyr Leu Phe Cys Phe Leu Ile Phe Leu Ser  
 20 25 30  
 Lys Lys Val Phe Phe Glu Ser Tyr Glu Asp Phe Ala Asn Val Ala Ser  
 35 40 45  
 Ser Trp Pro Lys Ser Leu Arg Ala Leu Val Gln Gly Arg Tyr Phe Val  
 50 55 60  
 Asp Ser Glu Leu Lys Glu Thr Pro Tyr Arg Ile His Asp Phe Lys Lys  
 65 70 75 80  
 Thr Pro Ile His His Arg Leu Tyr Arg Ser Leu Pro Ile Ile Ser Thr  
 85 90 95  
 Ile Gly Gly Ile Ile Arg Leu Ile Glu Ala His Ser Gly Pro Ile His  
 100 105 110  
 Pro Arg Asp Lys Met Lys Tyr Arg Phe Glu Val Leu Gln Ala Val Ile  
 115 120 125  
 Glu Ile Leu Gly Leu Gly Val Leu Ile Leu Val Phe Asp Ile Ile Gly  
 130 135 140  
 Cys Phe Leu Ala Phe Leu Val Ala Ile Ile Leu Ser Leu Leu Leu Tyr  
 145 150 155 160  
 Cys Asn Ser Thr Phe Thr Cys Val Gln Asn Leu Ser Phe Thr Glu Arg  
 165 170 175  
 Met Leu Glu Gly Ile Gly Glu Ala Val Asn Phe Leu Ala  
 180 185

&lt;210&gt;1170

&lt;211&gt;92

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1170

Val Gly Leu Ser Tyr Trp Asp Ser Gly Phe Val Val Leu Ala Cys Lys  
 1 5 10 15  
 Val Leu Ala Thr Ala Leu Lys Phe Leu Phe Ser Lys Ala Ser Ser Lys  
 20 25 30  
 Ile Lys Gln Met Lys Trp Arg Glu Lys Ala Arg Asn Leu Ala Ala Lys  
 35 40 45  
 Asp Thr Val Gln Ser Ile Lys Glu Phe Cys Ser Val Asp Leu Thr Ser  
 50 55 60  
 Cys Phe Thr Arg Cys Phe Arg Leu Arg Asn Arg Val Val Glu Glu Gly  
 65 70 75 80

Ala Ser Glu Asn Thr Val Arg Glu Ile Ile Val  
85 90

&lt;210&gt;1171

&lt;211&gt;130

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1171

Met Val Asn Arg Tyr Lys Ser Ser Ala Glu Phe Ser Ala Asp His Tyr  
1 5 10 15  
Tyr Asp Asp Asn Leu Val Arg Met Gly Tyr Lys Arg Asn Leu Arg Gly  
20 25 30  
Leu Ala Pro Val Glu Asn Glu Val Cys Leu Phe Glu Glu Asn Asn Leu  
35 40 45  
Leu Glu Ser Val Met Ala Ser Ile Pro Ile Met Gly Ser Ile Leu Gly  
50 55 60  
Leu Gly Arg Leu His Ser Val Trp Ser Thr Gln Asp Pro Lys Asp Ser  
65 70 75 80  
Lys Ile Ser Ile Ile Phe His Thr Ala Leu Gly Ile Leu Glu Thr Leu  
85 90 95  
Gly Leu Gly Ile Ile Val Leu Leu Ile Lys Ile Thr Ile Thr Ile Leu  
100 105 110  
Leu Ile Leu Phe Thr Pro Cys Leu Leu Cys Tyr Phe Met Tyr Ser Cys  
115 120 125  
Cys Leu  
130

&lt;210&gt;1172

&lt;211&gt;125

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1172

Met Thr Lys Asn Ala Ile Asn Ser Gln Thr Thr Thr Pro Gln Pro Asn  
1 5 10 15  
Leu Thr Asp Ala Glu Pro Ile Ala Ser Arg Ala Gln Cys Lys Ser Ile  
20 25 30  
Ala Val Ile Ile Ser Leu Phe Ala Leu Gly Met Leu Leu Leu Cys Leu  
35 40 45  
Gly Ile Ile Leu Ile Ser Ile Pro Ile Pro Gly Leu Ala Ala Gln Val  
50 55 60  
Ala Leu Gly Leu Gly Ile Val Ser Leu Ile Leu Gly Ile Ala Leu Ala  
65 70 75 80  
Asn Ile Gly Phe Leu Cys Leu Leu Leu Arg Cys Lys Gln Phe Pro Lys  
85 90 95  
Asn Pro Ile His Cys Pro Leu Lys Ala Leu Asn Ser Leu Pro Arg Glu  
100 105 110  
Ala Leu Pro Pro His Ser His Gly Lys Leu Glu Asn Phe  
115 120 125

&lt;210&gt;1173

&lt;211&gt;141

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1173

Leu Lys Glu Ile Met Met Ile Asn Phe Ile Arg Ser Tyr Ala Leu Tyr  
1 5 10 15  
Phe Ala Trp Ala Ile Ser Cys Ala Gly Thr Leu Ile Ser Ile Phe Tyr  
20 25 30  
Ser Tyr Ile Leu Asn Val Glu Pro Cys Ile Leu Cys Tyr Tyr Gln Arg  
35 40 45  
Ile Cys Leu Phe Pro Leu Thr Val Ile Leu Gly Ile Ser Ala Tyr Arg  
50 55 60  
Glu Asp Ser Ser Ile Lys Leu Tyr Ile Leu Pro Gln Ala Val Leu Gly  
65 70 75 80  
Leu Gly Ile Ser Ile Tyr Gln Val Phe Leu Gln Glu Ile Pro Gly Met  
85 90 95  
Gln Leu Asp Ile Cys Gly Arg Val Ser Cys Ser Thr Lys Ile Phe Leu

100 105 110  
 Phe Ser Tyr Val Thr Ile Pro Met Ala Ser Val Val Ala Phe Gly Ala  
 115 120 125  
 Ile Val Cys Leu Leu Val Leu Thr Lys Asn Tyr Arg Gly  
 130 135 140

&lt;210&gt;1174

&lt;211&gt;146

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1174

Leu Xaa Ile Glu Gln Glu Asn Phe Ser Phe Lys Phe Lys Lys Ser Ala  
 1 5 10 15  
 Leu Ser Phe Thr Tyr Asn Thr Ala Asn Leu Thr Lys Ser Thr Phe Thr  
 20 25 30  
 Phe Ile Leu Leu Leu Leu Arg Lys Lys Asp Gln Gly Leu Arg Phe  
 35 40 45  
 Met Asp Lys Glu Thr Leu Glu Asn Ile Tyr Arg His Phe Arg Tyr Arg  
 50 55 60  
 Phe Leu Lys Leu Asn Ile Leu Pro Ala Phe Leu Gly Leu Leu Leu Leu  
 65 70 75 80  
 Cys Ser Pro Asn Thr Leu Asn Tyr Thr Gln Val Asp Val Ile Phe Ser  
 85 90 95  
 Asp Arg Leu Cys Ser Cys Leu Leu Ile Phe Leu Ala Ile Ala Ser Leu  
 100 105 110  
 Thr Lys Arg Ser Leu Leu Trp Leu Gly Ala Pro Leu Gly Ile Trp Val  
 115 120 125  
 Thr Leu Phe Ala Cys Val Ala Asp Asp Leu Leu Leu Phe Leu Gln Met  
 130 135 140

Ile Leu

145

&lt;210&gt;1175

&lt;211&gt;95

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1175

Leu Leu Val Phe Val Lys Val Asn Ser Ser Met Gly Leu Pro Thr Phe  
 1 5 10 15  
 Pro Xaa Xaa Phe Leu Asn Ile Cys Cys Trp Phe Ile Ile Val Leu Phe  
 20 25 30  
 Ile Leu Ala Phe Ala Glu Ser Leu Arg His Leu Arg Trp Met Asn Leu  
 35 40 45  
 Ile Phe Ser Ala Ala Ile Leu Phe Ser Pro Val Leu Phe His Ile Pro  
 50 55 60  
 Val Glu Ser Pro Met Phe Leu Pro Ile Ile Val Thr Gly Leu Ile Leu  
 65 70 75 80  
 Ile Ile Leu Ser Ile Gly Lys Arg Arg Arg Thr Lys Arg Lys Leu  
 85 90 95

&lt;210&gt;1176

&lt;211&gt;85

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1176

Leu Val Tyr Phe Met Val Phe Ser Pro Ser Ser Glu Ser Val Val Lys  
 1 5 10 15  
 Ala Asn Ser Val Val Arg Ser Asn Phe Cys Tyr Phe Leu Glu Asn Lys  
 20 25 30  
 Phe Val Ser Pro Ser Glu Ser Thr Glu Val Met Phe Ser Glu Ile Met  
 35 40 45  
 Lys Gly Arg Val Pro Asp Ile Glu Ser Leu Phe Asp Arg Pro Thr Asp  
 50 55 60  
 Met Met Met Thr Gly Phe Lys Xaa Arg Arg Ile Trp Gly Ile Cys Ser  
 65 70 75 80  
 Ile Ala Ser Glu Tyr  
 85

&lt;210&gt;1177

&lt;211&gt;114

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1177

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Met Leu Tyr Pro Val Ile Ala Val Val Cys Ala Val Val Ser Val Val
 1           5           10           15
Leu Leu Ile Leu Lys Val Leu Phe Leu Leu Ser Phe Pro Phe Lys
      20           25           30
Leu Cys Ser Ala Ser Ser Ala Leu Pro Gly Glu Arg Val Ser Leu Gly
      35           40           45
Ser His Phe Lys Cys Leu Tyr Gly Gly Gly Leu Pro Tyr Leu Leu Ala
      50           55           60
Cys Leu Leu Ile Val Pro Val Ile Gly Thr Ala Ile His Gly Phe Ile
      65           70           75           80
Ile Ser His Arg Thr Ser Glu Asp Ala Arg Leu Ser Ser Ala Ile Val
      85           90           95
Phe Met Gln Ala Pro Ile Leu Gln Leu Ala Gly Met Ser Gly Leu Ile
      100           105           110
Lys Pro

```

&lt;210&gt;1178

&lt;211&gt;79

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1178

```

Leu Phe Phe Tyr Ile Tyr Ser Ile Leu Lys Arg Tyr Ile Val Val Leu
 1           5           10           15
Gly Lys Ile Leu Gly Leu Ile Thr Ile Gln Phe Tyr Gln Asn Leu Gly
      20           25           30
Gly Met Ser Ser Glu Arg Tyr Ser Ala Leu His Ser Arg Lys Ser Leu
      35           40           45
Ser Val Leu Pro His Val Val Arg Lys Val Leu Leu Ser Phe Pro Asp
      50           55           60
Phe Arg Gly Asn Gly Asp Val Asn Leu Arg Asn Ile Arg Ser Asp
      65           70           75

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&lt;210&gt;1179

&lt;211&gt;163

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1179

```

Leu Lys Ala Lys Ala Tyr Leu Asp Lys Gly Ala Phe Val Pro Ser Asp
 1           5           10           15
Phe Val Trp Glu Ile Leu Lys Glu Lys Leu Gln Ser Gln Ala Cys Ser
      20           25           30
Lys Gly Cys Ile Ile Asp Gly Phe Pro Arg Thr Leu Asp Gln Ala His
      35           40           45
Leu Leu Asp Ser Phe Leu Met Asp Val His Ser Asn Tyr Thr Val Ile
      50           55           60
Phe Leu Glu Ile Ser Glu Asp Glu Ile Leu Lys Arg Val Cys Ser Arg
      65           70           75           80
Phe Leu Cys Pro Ser Cys Ser Arg Ile Tyr Asn Thr Ser Gln Gly His
      85           90           95
Thr Glu Cys Pro Asp Cys His Val Pro Leu Ile Arg Arg Ser Asp Asp
      100           105           110
Thr Pro Glu Ile Ile Lys Glu Arg Leu Thr Lys Tyr Gln Glu Arg Thr
      115           120           125
Ala Pro Val Ile Ala Tyr Tyr Asp Ser Leu Gly Lys Leu Cys Arg Val
      130           135           140
Ser Ser Glu Asn Lys Glu Asp Leu Val Phe Glu Asp Ile Leu Lys Cys
      145           150           155           160
Ile Tyr Lys

```

&lt;210&gt;1180

&lt;211&gt;128

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1180

```

Met Ser Gln Cys Gln Ser Ser Ser Thr Ser Thr Trp Glu Trp Met Lys
 1      5      10      15
Ser Phe Val Pro Asn Trp Lys Asn Pro Thr Pro Pro Leu Ser Pro Ile
      20      25      30
Pro Ser Glu Asp Glu Phe Ile Leu Ala Tyr Glu Pro Phe Val Leu Pro
      35      40      45
Lys Thr Asp Pro Glu Asn Ala Gln Ala Asn Pro Pro Gly Thr Ser Thr
      50      55      60
Pro Asn Val Glu Asn Gly Ile Asp Asp Leu Asn Pro Leu Leu Gly Gln
      65      70      75      80
Pro Asn Glu Gln Asn Asn Ala Asn Asn Pro Gly Thr Ser Gly Ser Asn
      85      90      95
Pro Thr Ser Leu Pro Ala Pro Glu Arg Leu Pro Glu Thr Glu Glu Asn
      100      105      110
Ser Gln Glu Glu Glu Gln Gly Ser Gln Asn Asn Glu Asp Leu Ile Gly
      115      120      125

```

&lt;210&gt;1181

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1181

```

Leu Lys Ser Met Leu Asp Pro Lys Lys His Ser Thr Leu Gly Ile Glu
 1      5      10      15
Ile Ser Ser Glu Thr Ala Glu Thr Ile Glu Ser Cys Ser Leu Gly Leu
      20      25      30
Ile Ser Ile Asn Leu Leu Leu Ser Gly Leu Cys Leu Arg Ser Ser His
      35      40      45
Asp Arg Ser Gln Ala Val Lys Ile Ile Gln Gln Phe Cys Pro Gln Phe
      50      55      60
Ser Ser Glu Glu Val Gln Asn Phe Val Glu Gln Arg Asn Ile Leu Leu
      65      70      75      80
His Phe Tyr Ile Ile Cys Leu Lys Gly Thr Lys Ser Pro Cys
      85      90

```

&lt;210&gt;1182

&lt;211&gt;314

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1182

```

Met Asn Lys Lys His Ala Ser Phe Ser Ser Arg Leu Gly Phe Ile Phe
 1      5      10      15
Ser Met Ile Gly Ile Ala Val Gly Ala Gly Asn Ile Trp Arg Phe Pro
      20      25      30
Arg Val Ala Ala Gln Asn Gly Gly Gly Ala Phe Leu Ile Leu Trp Leu
      35      40      45
Cys Phe Leu Phe Leu Trp Ser Ile Pro Leu Ile Ile Ile Glu Leu Ser
      50      55      60
Ile Gly Lys Leu Thr Lys Lys Ala Pro Ile Gly Ala Leu Ile Lys Thr
      65      70      75      80
Ala Gly Lys Lys Phe Ala Trp Ala Gly Gly Phe Ile Thr Leu Val Thr
      85      90      95
Thr Cys Ile Leu Ala Tyr Tyr Ser Thr Ile Val Gly Trp Gly Leu Ser
      100      105      110
Tyr Phe Tyr Tyr Ala Val Ser Gly Lys Ile His Leu Gly Asn Asp Phe
      115      120      125
Ala Lys Leu Trp Thr Ser His Tyr Gln Ser Ser Ile Pro Leu Trp Ala
      130      135      140
His Leu Thr Ser Leu Gly Leu Ala Tyr Leu Val Ile Arg Lys Gly Ile
      145      150      155      160
Val His Gly Ile Glu Lys Cys Asn Lys Ile Leu Ile Pro Ala Phe Phe
      165      170      175

```

Met	Ser	Val	His	Ile	Thr	Pro	Arg	Lys	Cys	Phe	Ile	Leu	Cys	Ile	Leu
1				5					10					15	
Ser	Met	Phe	Thr	Leu	Pro	Thr	Leu	Phe	Pro	Lys	Ala	His	Leu	Ile	Leu
			20					25					30		
Phe	Ser	Pro	Tyr	Ile	Val	Leu	Cys	Phe	Tyr	Cys	Phe	Ser	Lys	Asp	Lys
		35					40					45			
Gly	Leu	Val	Leu	Ala	Leu	Gly	Cys	Gly	Val	Leu	Ser	Asp	Leu	Ala	Leu
	50					55					60				
Gly	Ser	Arg	Gly	Val	Phe	Leu	Leu	Leu	Tyr	Pro	Leu	Thr	Ala	Leu	Ile
65					70					75					80
Thr	His	Lys	Ala	His	Leu	Ile	Phe	Ser	Lys	Glu	Ser	Lys	Ala	Ala	Leu
				85					90					95	
Val	Ile	Val	Asn	Met	Ile	Phe	Tyr	Gly	Val	Phe	Leu	Leu	Leu	Thr	Ile
			100					105					110		
Pro	Met	Cys	Ala	Leu	Phe	Gly	His	Glu	Val	Arg	Trp	Ser	Ile	Asp	Val
		115					120					125			
Leu	Met	Ile	Pro	Leu	Lys	Cys	Ser	Phe	Leu	Asp	Asn	Leu	Ile	Phe	Thr
	130					135					140				

Ser Val Ile Tyr Ile Leu Pro Cys Ala Ile Asn Ser Gly Ile His Lys  
 145 150 155 160  
 Met Ile Ser Phe Phe Arg Arg Leu Val Cys Tyr  
 165 170

&lt;210&gt;1185

&lt;211&gt;205

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1185

Met Phe Met Lys Ile Cys Ser Leu Lys Leu Lys Asn Phe Arg Asn His  
 1 5 10 15  
 Ser Asp Leu Glu Ile Ser Leu Ala Pro Lys Leu Asn Tyr Ala Gln Gly  
 20 25 30  
 Lys Thr Asn Leu Leu Glu Ala Leu Tyr Val Leu Ser Leu Gly Arg Ser  
 35 40 45  
 Phe Arg Thr Gln His Leu Thr Asp Thr Ile Thr Phe Gly Ser Ser His  
 50 55 60  
 Phe Phe Leu Glu Thr Gln Phe Glu Lys Asp His Leu Pro Gln Ala Leu  
 65 70 75 80  
 Ser Ile Tyr Thr Asp Lys Gln Gly Lys Lys Ile Cys Tyr Asn Gln Leu  
 85 90 95  
 Pro Ile Lys Thr Leu Ser Gln Leu Ile Gly Lys Val Pro Ile Val Leu  
 100 105 110  
 Phe Ser Ser Lys Asp Arg Leu Leu Ile Ser Gly Ala Pro Ala Asp Arg  
 115 120 125  
 Arg Leu Phe Leu Asn Leu Leu Leu Ser Gln Cys Asp Asn His Tyr Thr  
 130 135 140  
 Leu Cys Leu Ser Tyr Tyr His Arg Ala Leu Gln Gln Arg Asn Ala Leu  
 145 150 155 160  
 Leu Lys Ser Lys Gln Thr Ser Thr Val Ala Ser Gly Met Asn Ser Trp  
 165 170 175  
 Ser Asn Thr Ala Pro Thr Tyr Pro Ser Asn Gly Phe Ser Val Val Arg  
 180 185 190  
 Asn Phe Gln Ile Tyr Pro Lys Asn Phe Gly Leu Thr Thr  
 195 200 205

&lt;210&gt;1186

&lt;211&gt;81

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1186

Leu Arg Phe Arg Asn Ile Lys Lys Ser Leu Ile Phe Ile Lys Arg Ile  
 1 5 10 15  
 Arg Tyr Ser Gln Ser Gly Lys Glu Gln Lys Gly Ala Arg Pro Phe Phe  
 20 25 30  
 Lys Lys Ser Ile Thr Ser Ser Leu Val Ile Leu Leu Leu Glu Ala Ile  
 35 40 45  
 Phe Asn Glu Asn Phe Ser Ser Ile Ile Gln Asn Asn Phe Asn Lys Asn  
 50 55 60  
 Phe Lys Asn Lys Asn Ile Ser Ile Asn Arg Ile Phe Val Lys Phe Thr  
 65 70 75 80  
 Ile

&lt;210&gt;1187

&lt;211&gt;79

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1187

Val Gln Leu Phe Gln Tyr Met Asn Glu Ser Gly Trp Asp Trp Leu Cys  
 1 5 10 15  
 Asp Phe Asp Ser Gln Gly Glu Gly Phe Gln Leu Ser Arg Leu Val Gly  
 20 25 30  
 Leu Leu His Ser Ser Trp Ala Leu Tyr Glu Ala Lys Glu Gln Phe Tyr  
 35 40 45  
 Leu Pro Glu Val Ser Leu Leu Thr Trp Glu Glu Leu Ile Glu Met Gln

50 55 60  
 Phe Val Lys Gln Thr Asn Lys Thr Arg Gly Cys Lys Arg Ser Leu  
 65 70 75  
 <210>1188  
 <211>119  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1188  
 Met Pro Val Ser Ser Ala Pro Leu Pro Thr Ser His Arg Pro Ser Ser  
 1 5 10 15  
 Gly Asn Leu Gly Leu Met Glu Pro Asn Ser Lys Ala Leu Lys Ala Lys  
 20 25 30  
 His Gln Asp Lys Thr Thr Lys Thr Ile Lys Leu Leu Val Lys Ile Leu  
 35 40 45  
 Val Ala Ile Leu Val Ile Glu Val Leu Gly Ile Ile Ala Ala Phe Phe  
 50 55 60  
 Ile Pro Gly Thr Pro Pro Ile Cys Leu Ile Ile Leu Gly Gly Leu Ile  
 65 70 75 80  
 Leu Thr Thr Val Leu Cys Val Leu Leu Leu Val Ile Lys Leu Ala Leu  
 85 90 95  
 Val Asn Lys Thr Glu Gly Thr Thr Ala Glu Gln Gln Ile Lys Arg Lys  
 100 105 110  
 Leu Ser Ser Lys Ser Ile Ser  
 115  
 <210>1189  
 <211>105  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1189  
 Met Ser Ser Pro Val Val Thr Gly Thr Ser Ser Ala Ser Pro Val Glu  
 1 5 10 15  
 Gln Thr Lys Leu Gly Glu Phe Leu Glu Arg Leu Ser Gly Ser Gly Arg  
 20 25 30  
 Cys Ile Lys Ile Ala Phe Ala Ala Ser Thr Ala Leu Leu Leu Asn  
 35 40 45  
 Thr Phe Val Ser Gly Ile Val Ala Ile Ala Met Ile Phe Val Ala Thr  
 50 55 60  
 Ser Val Gly Ala Tyr Phe Thr Val Ile Gly Pro Leu Phe Leu Leu Ser  
 65 70 75 80  
 Leu Ile Leu Leu Ala Ile Met Leu Ile Ser Met Tyr Lys Ile Thr His  
 85 90 95  
 Pro Ser Gln Asn Thr Pro Ile Ser Asn  
 100 105  
 <210>1190  
 <211>162  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1190  
 Met Leu Cys Thr Cys Ser Arg Ile Gln Asp Gly Asn Pro Trp Met Lys  
 1 5 10 15  
 Ser Glu Arg Leu Lys Lys Leu Glu Ser Glu Leu His Asp Leu Thr Gln  
 20 25 30  
 Trp Met Gln Leu Gly Leu Val Pro Lys Lys Glu Ile Ser Arg His Gln  
 35 40 45  
 Glu Glu Ile Arg Ile Leu Glu His Lys Ile Tyr Glu Glu Lys Glu Arg  
 50 55 60  
 Leu Gln Leu Leu Lys Glu Asn Gly Glu Ile Glu Glu Tyr Val Thr Pro  
 65 70 75 80  
 Arg Arg Ser Pro Ala Lys Thr Val Tyr Pro Asp Gly Pro Ser Met Ser  
 85 90 95  
 Asp Ile Glu Phe Val Glu Pro Thr Glu Thr Glu Ile Asp Ile Asp Pro  
 100 105 110  
 Gly Glu Thr Val Glu Leu Glu Leu Thr Asp Glu Gly Arg Glu Asp Gly  
 115 120 125



Ala Val Glu Val Asp Tyr Ser His Glu Asp Asp Glu Asp Pro Phe Ser  
 130 135 140  
 Asp Arg Asn Arg Trp Arg Arg Gly Gly Ile Ile Asp Pro Asp Ala Asn  
 145 150 155 160  
 Glu Trp

&lt;210&gt;1191

&lt;211&gt;83

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1191

Leu Val Ile Gln Ile Gly Val Leu Pro Pro Leu Val Ala Thr Lys Lys  
 1 5 10 15  
 Ile Asp Ile Asn Arg Phe Met Gln Asp Ala Asp Asn Trp Ile Pro Met  
 20 25 30  
 Phe Ser His Pro Phe Phe Leu Arg Glu Lys Thr Leu Ser Asp Gly Lys  
 35 40 45  
 Asp Ile His Ile Leu Ser Arg Leu Lys Gly Leu Gln Thr Cys Ala Pro  
 50 55 60  
 Cys Ser Pro His Glu Glu Arg Thr Ile Thr Leu Leu Ser His Ser Asn  
 65 70 75 80  
 Ser Val Ser

&lt;210&gt;1192

&lt;211&gt;95

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1192

Met Asn Lys Ser Arg Phe Leu Arg Leu Cys Cys Cys Leu Cys Phe Cys  
 1 5 10 15  
 Gly Ser Leu Phe Tyr Phe Tyr Ile Asn Lys Gln Asn Ser Leu Thr Lys  
 20 25 30  
 Leu Arg Leu Glu Ile Pro Cys Leu Ser Val Arg Leu Arg Gln Leu Glu  
 35 40 45  
 Gln Gln Asn Ile Ser Leu Arg Phe Leu Ile Asp Lys Ile Glu Arg Pro  
 50 55 60  
 Asp His Leu Met Glu Ile Ala Ala Leu Pro Glu Tyr Gln Tyr Leu Glu  
 65 70 75 80  
 Tyr Pro Ser Glu Glu Ser Ile Ser Leu Leu Ser Tyr Glu Leu Pro  
 85 90 95

&lt;210&gt;1193

&lt;211&gt;101

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1193

Met Asp Pro Ala Ser Pro Val Ala Pro His Val Leu Gln Asp His Val  
 1 5 10 15  
 Gln Leu Ser Ser Glu Glu Leu Ser Ala Leu Ser Ser Gly Val Ser Arg  
 20 25 30  
 Val Lys Lys Leu Thr Ile Ala Ile Met Val Leu Ser Leu Ile Ala Ile  
 35 40 45  
 Ser Leu Val Ala Cys Gly Leu Phe Leu Thr Gly Ser Ala Pro Leu Gln  
 50 55 60  
 Leu Ser Ile Trp Ile Ala Ala Ser Cys Ile Thr Leu Ser Met Leu Val  
 65 70 75 80  
 Cys Ala Cys Trp Arg Tyr Lys Ile Ser Asn Ala Leu Glu Lys Thr Lys  
 85 90 95  
 Val Ala His Glu Ser  
 100

&lt;210&gt;1194

&lt;211&gt;77

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1194

Val Met Trp Tyr Asp Tyr His Val Trp Ile Leu Phe Val His Glu  
 1 5 10 15  
 Arg Val Val Arg Leu Gly Leu Thr Glu Lys Met Gln Lys Asn Leu Gly  
 20 25 30  
 Ala Ile Leu His Val Asp Leu Pro Ser Val Gly Ser Leu Cys Lys Glu  
 35 40 45  
 Gly Glu Val Leu Val Ile Leu Glu Ser Ser Lys Ser Ala Ile Arg Gly  
 50 55 60  
 Val Lys Ser Cys Ile Arg Arg Gly Tyr Arg Tyr Gln Pro  
 65 70 75

&lt;210&gt;1195

&lt;211&gt;172

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1195

Met Gly Phe Lys Asn Ile Cys Lys Gln Gly Ser Gln Leu Tyr Leu Asn  
 1 5 10 15  
 Gly Ile Phe Pro Glu Arg Ile Leu Ala Arg Lys Leu Lys Asn Cys Ala  
 20 25 30  
 Lys Ser Tyr Pro Arg Thr Ala Leu Thr Ile Glu Val Leu Val Ser Ser  
 35 40 45  
 Val Leu Gly Ala Leu Lys Val Ile Leu Ile Pro Cys Ala Ser Thr Tyr  
 50 55 60  
 Ala Ala Leu Thr Leu Pro Leu Arg Ala Leu Phe Asn Ala Ile Lys Thr  
 65 70 75 80  
 Lys Ser Cys Gln His Leu Ala Ser Tyr Ala Met Ala Trp Leu Leu His  
 85 90 95  
 Ile Leu Thr Ile Ala Val Ile Ile Gly Leu Val Phe Ser Leu Val Phe  
 100 105 110  
 Ile Pro Pro Pro Val Val Phe Ile Ser Leu Gly Leu Leu Met Ser Val  
 115 120 125  
 Thr Thr Ser Val Thr Leu Phe Gln Val His Lys Asn Leu Phe Pro Pro  
 130 135 140  
 Tyr Glu Pro Pro Pro Ser Arg Pro His Thr Pro Pro Phe Ala Asp  
 145 150 155 160  
 Glu Tyr Val Pro Leu Ile Ser Glu Ser Tyr Phe Asp  
 165 170

&lt;210&gt;1196

&lt;211&gt;224

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1196

Val Thr Pro Ser Ala Asp Asp Ala Lys Lys Ile Ala Val Glu Lys Lys  
 1 5 10 15  
 Lys Asp Leu Ser Ala Ser Ala Arg Met Glu Glu His Glu Ala Ser Gln  
 20 25 30  
 Arg Gln Asp Ala Arg His Arg Arg Ile Gly Arg Glu Ala Gln Gly Ser  
 35 40 45  
 Phe Phe Tyr Ser Ser Arg Asn Pro Glu His Arg Arg Ser Phe Gly Ser  
 50 55 60  
 Leu Ser Arg Phe Lys Thr Lys Pro Ser Asp Ala Ser Thr Arg Pro  
 65 70 75 80  
 Ala Ser Ile Ser Pro Phe Lys Asp Asp Phe Gln Pro Tyr His Phe  
 85 90 95  
 Lys Asp Leu Arg Ser Ser Ser Phe Gly Ser Gly Ala Ser Ser Ala Phe  
 100 105 110  
 Thr Pro Ile Met Pro Ala Ser Ser Arg Ser Pro Asn Phe Ser Thr Gly  
 115 120 125  
 Thr Val Leu His Pro Glu Pro Val Tyr Pro Lys Gly Gly Lys Glu Pro  
 130 135 140  
 Ser Ile Pro Arg Val Ser Ser Ser Arg Arg Ser Pro Arg Asp Arg  
 145 150 155 160  
 Gln Asp Lys Gln Gln Gln Gln Asn Gln Asp Glu Glu Gln Lys Gln  
 165 170 175

Gln Ser Lys Lys Lys Ser Gly Lys Ser Asn Gln Ser Leu Lys Thr Pro  
 180 185 190  
 Pro Pro Asp Gly Lys Ser Thr Ala Asn Leu Ser Pro Ser Asn Pro Phe  
 195 200 205  
 Ser Asp Gly Tyr Asp Glu Arg Glu Lys Arg Lys His Arg Lys Asn Lys  
 210 215 220

&lt;210&gt;1197

&lt;211&gt;139

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1197

Leu Ile Lys Lys Arg Ala Ile Phe Glu Arg Met Phe Pro Ile Pro Pro  
 1 5 10 15  
 Pro His Cys Pro Pro Asn Asn Lys Asn Asn Phe Tyr His Leu Thr Thr  
 20 25 30  
 Asp Thr Lys Asp Pro Leu Leu Leu Arg Ile Leu Arg Thr Ile Gly Tyr  
 35 40 45  
 Val Leu Leu His Ile Ile Thr Leu Gly Leu Leu Leu Leu Ile His Tyr  
 50 55 60  
 Tyr Lys His His Arg Val Val Arg Lys Glu Gly Leu Pro Thr Pro Pro  
 65 70 75 80  
 Thr Leu Pro Lys Gly Pro Glu Pro Lys Thr Ile Glu Ile Ala Lys Gln  
 85 90 95  
 Pro Pro Lys Asp Gly Glu Asp Lys Lys Pro Asp Val Pro Lys Pro Gly  
 100 105 110  
 Thr Pro Pro Pro Glu Asp Thr Pro Pro Pro Pro Pro Lys Ala Pro Ser  
 115 120 125  
 Pro Ala Ser Pro Lys Val Pro Lys Thr Thr Cys  
 130 135

&lt;210&gt;1198

&lt;211&gt;79

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1198

Val Val Glu Ser Ala Phe Tyr Gln Gln Val Val Leu Gly Thr Phe Gly  
 1 5 10 15  
 Leu Ala Gly Glu Gly Ala Leu Gly Gly Gly Gly Gly Val Ser Ser Gly  
 20 25 30  
 Gly Gly Val Pro Gly Leu Gly Thr Ser Gly Phe Leu Ser Ser Pro Ser  
 35 40 45  
 Leu Gly Gly Cys Leu Ala Ile Ser Ile Val Phe Gly Ser Gly Pro Leu  
 50 55 60  
 Gly Arg Val Gly Gly Val Gly Lys Pro Ser Phe Leu Thr Thr Arg  
 65 70 75

&lt;210&gt;1199

&lt;211&gt;90

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1199

Leu Asp Asp Ser Trp Ile Leu Glu Val Lys Val Thr Pro Lys Ala Lys  
 1 5 10 15  
 Glu Asn Lys Ile Val Gly Phe Asp Gly Gln Ala Leu Lys Val Arg Val  
 20 25 30  
 Thr Glu Pro Pro Glu Lys Gly Lys Ala Asn Asp Ala Val Ile Ser Leu  
 35 40 45  
 Leu Ala Lys Ala Leu Ser Leu Pro Lys Arg Asp Val Thr Leu Ile Ala  
 50 55 60  
 Gly Glu Thr Ser Arg Lys Lys Lys Phe Leu Leu Pro Asn Arg Val Gln  
 65 70 75 80  
 Asp Ile Ile Phe Ser Leu His Ile Asp Val  
 85 90

&lt;210&gt;1200

&lt;211&gt;107

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1200

Leu Gln Asn Ser Met His Lys Val Phe Ala Asp Pro Ser Leu Thr Asp  
 1 5 10 15  
 Thr Ile Thr Leu Pro Ile Asp Ala Pro Gly Asp Pro Ala Tyr Pro His  
 20 25 30  
 Val Leu Gly Glu Ala Phe Ile Ser Pro Gln Ala Ala Leu Arg Phe Leu  
 35 40 45  
 Glu Asn Thr Ser Pro Asn Gln Glu Asp Ile Tyr Glu Glu Ile Ser Arg  
 50 55 60  
 Tyr Leu Val His Ser Ile Leu His Met Leu Gly Tyr Asp Asp Thr Ser  
 65 70 75 80  
 Ser Glu Glu Lys Arg Lys Met Arg Val Lys Glu Asn Gln Ile Leu Cys  
 85 90 95  
 Met Leu Arg Lys Lys His Ala Leu Leu Thr Ala  
 100 105

&lt;210&gt;1201

&lt;211&gt;279

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1201

Met Ser Ser Leu Leu Ser Cys Gly Arg Ile Glu Pro Thr Arg Val Thr  
 1 5 10 15  
 Cys Ser Leu Lys Thr Tyr Leu Glu Asp Thr Ser Gln Asn Gln Leu Ser  
 20 25 30  
 Thr Arg Leu Val Arg Ala Ser Val Ile Phe Leu Cys Ala Leu Leu Ile  
 35 40 45  
 Ile Leu Val Cys Val Ala Leu Ser Ser Leu Ile Pro Ser Ile Met Ala  
 50 55 60  
 Leu Ala Thr Ser Phe Thr Val Met Gly Leu Ile Leu Phe Val Met Ser  
 65 70 75 80  
 Leu Leu Gly Asp Val Ala Ile Ile Ser Tyr Leu Thr Tyr Ser Thr Val  
 85 90 95  
 Thr Ser Tyr Arg Gln Asn Lys Arg Ala Phe Glu Ile His Lys Pro Ala  
 100 105 110  
 Arg Ser Val Tyr Tyr Glu Gly Val Arg His Trp Asp Leu Gly Arg Ser  
 115 120 125  
 Ser Leu Gly Thr Gly Glu Ile Pro Ile Val Arg Thr Leu Phe Ser Pro  
 130 135 140  
 Phe Gln Asn His Gly Leu Asn His Ala Leu Ala Ala Lys Ile Phe Leu  
 145 150 155 160  
 Phe Met Glu His Phe Ser Pro Glu Pro Pro Asn Glu Pro Leu Val Asp  
 165 170 175  
 Trp Ala Cys Leu Ile Arg Asp Phe Arg Pro His Val Ser Ser Leu Cys  
 180 185 190  
 Phe Val Ile Glu Lys Gln Gly Ser Ser Leu Arg Thr Lys Glu Gly Asn  
 195 200 205  
 Thr Ile Cys Glu Ala Phe Arg Ser Asp Tyr Asp Ala His Phe Ala Met  
 210 215 220  
 Val Asp Cys Tyr Arg Leu Ile His Ser Lys Leu Ile Ile Glu Lys Met  
 225 230 235 240  
 Gly Leu Lys Asn Ile Asp Ile Ile Pro Ser Val Met Val Arg Glu Asp  
 245 250 255  
 Tyr Pro Ser Arg Pro Gly Glu Gly Tyr Arg Glu Gly Leu Leu Arg Met  
 260 265 270  
 Tyr Gly Gly Lys Gly Ala Leu  
 275

&lt;210&gt;1202

&lt;211&gt;239

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1202

Leu Lys Val Gln Lys Leu Arg Gln Pro Ser Phe Tyr Pro Lys Arg Leu  
 1 5 10 15

Met Thr Leu Tyr Leu G Leu Asn Gln Lys Thr Ala Arg Lys Tyr Gln  
 20 25 30  
 Ala His Tyr Leu Pro Ile Leu Thr Leu Phe Pro Tyr Ala Lys Ser Thr  
 35 40 45  
 Pro Gln Asn Lys Arg Ala Leu Gln Phe Leu Pro Gln Ala Thr His Val  
 50 55 60  
 Ile Leu Thr Ser Pro Ser Ser Thr His Leu Phe Leu Ser Arg Met Thr  
 65 70 75 80  
 Ser Leu Leu Ser Lys Ala Thr Leu Lys Thr Lys Thr Tyr Leu Cys Ile  
 85 90 95  
 Gly Glu Ser Thr Lys Glu Arg Leu Leu Ser Phe Leu Gly Gln Val Lys  
 100 105 110  
 Tyr Val Val Ala Thr Gln Glu Ile Ala Glu Gly Ile Phe Pro Leu Leu  
 115 120 125  
 Gln Ala Leu Pro Ser Ser Ala Arg Ile Leu Tyr Pro His Ser Ser Leu  
 130 135 140  
 Ala Arg Pro Val Ile Arg Glu Phe Leu Tyr Asn Arg Phe Thr Phe Phe  
 145 150 155 160  
 Ser Tyr Pro His Tyr Thr Val Lys Pro Arg Lys Leu Lys Lys Asn Ile  
 165 170 175  
 Leu Ser Lys Tyr Lys Lys Ile Ile Phe Thr Ser Pro Ser Thr Val Arg  
 180 185 190  
 Ala Phe Ala Lys Ile Phe Pro Arg Phe Pro Glu Lys Thr Tyr Trp Cys  
 195 200 205  
 Gln Gly Arg Met Thr Leu Gln Glu Phe Gln Lys Phe Ser Ser Gln Lys  
 210 215 220  
 Gln Val Ser Leu Leu Glu Thr Leu Gly Lys Ser Arg Thr Ser Pro  
 225 230 235

&lt;210&gt;1203

&lt;211&gt;110

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1203

Met Ala Ser Ser Ala Thr Pro Gly Phe Asp Gly Thr Ala Pro Ser Leu  
 1 5 10 15  
 Phe Pro Pro Ala Thr Arg Pro Arg Tyr Asn Phe Lys Leu Ala Leu Phe  
 20 25 30  
 Val Thr Ile Ala Ile Ala Leu Val Trp Ile Ala Leu Ile Ala Thr Thr  
 35 40 45  
 Ile Ala Ile Gly Leu Cys Ile His Pro Leu Cys Ser Phe Ile Phe Leu  
 50 55 60  
 Thr Ala Ile Pro Leu Tyr Phe Ile Ser Arg Tyr Ile Cys Ser His Tyr  
 65 70 75 80  
 Ala Arg Asn Val Tyr Ile Ala Leu Asp Val Val Pro Asp His Ser Lys  
 85 90 95  
 Leu Gln Asp Met Arg Ser His Ser Pro Ile Phe Ser Asp Arg  
 100 105 110

&lt;210&gt;1204

&lt;211&gt;196

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1204

Met Leu Ile Leu Gly Leu Leu Thr Pro Thr Phe Gly Ser Leu Lys Thr  
 1 5 10 15  
 Phe Pro Ser His Ser Ala Gly Lys Gln Thr His Ser Met Ile Gly Trp  
 20 25 30  
 Val Pro Gln His Phe Ser Tyr Asp Pro Cys Phe Pro Ile Ser Val Lys  
 35 40 45  
 Asp Val Val Leu Ser Gly Arg Leu Ser Gln Leu Ser Trp His Xaa Lys  
 50 55 60  
 Tyr Lys Xaa Lys Asp Phe Glu Ala Val Asp His Ala Leu Asp Asn Val  
 65 70 75 80  
 Gly Leu Ser Asp His His His His Cys Phe Ala His Leu Ser Gly Gly  
 85 90 95

Gln Ile Gln Arg V eu Leu Ala Arg Ala Leu Ala Ser Tyr Pro Glu  
 100 105 110  
 Ile Leu Ile Leu Asp Glu Pro Thr Thr Asn Ile Asp Pro Asp Asn Gln  
 115 120 125  
 Gln Arg Ile Leu Ser Ile Leu Lys Lys Leu Asn Arg Thr Cys Thr Ile  
 130 135 140  
 Leu Met Val Thr His Asp Leu His His Thr Thr Asn Tyr Phe Asn Lys  
 145 150 155 160  
 Val Phe Tyr Met Asn Lys Thr Leu Thr Ser Leu Ala Asp Thr Ser Thr  
 165 170 175  
 Leu Thr Asp Gln Phe Cys Cys His Pro Tyr Lys Asn Gln Glu Phe Ser  
 180 185 190  
 Cys Ser Pro His  
 195

&lt;210&gt;1205

&lt;211&gt;92

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1205

Met Leu Ser Ser Leu Ile Arg Asp Ser Phe Pro Leu Leu Ile Leu Leu  
 1 5 10 15  
 Pro Thr Phe Leu Ala Ala Leu Gly Ala Ser Val Ala Gly Gly Val Met  
 20 25 30  
 Gly Thr Tyr Ile Val Val Lys Arg Ile Val Ser Ile Ser Gly Ser Ile  
 35 40 45  
 Ser His Ala Ile Leu Gly Gly Ile Gly Leu Thr Leu Trp Ile Gln Tyr  
 50 55 60  
 Lys Leu His Leu Ser Phe Phe Pro Met Tyr Gly Ala Ile Val Gly Ala  
 65 70 75 80  
 Ile Phe Leu Ala Leu Cys Ile Gly Lys Arg Ser Thr  
 85 90

&lt;210&gt;1206

&lt;211&gt;188

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1206

Leu His Arg Gln Lys Ile His Leu Lys Tyr Gln Glu Arg Glu Asp Ser  
 1 5 10 15  
 Leu Ile Ala Met Ile Trp Ser Val Gly Met Ala Ile Gly Ile Ile Phe  
 20 25 30  
 Ile Ser Arg Leu Pro Thr Phe Asn Gly Glu Leu Ile Asn Phe Leu Phe  
 35 40 45  
 Gly Asn Ile Leu Trp Val Thr Pro Ser Asp Leu Tyr Ser Leu Xaa Ile  
 50 55 60  
 Phe Asp Leu Leu Val Leu Gly Ile Val Val Leu Cys His Thr Arg Phe  
 65 70 75 80  
 Leu Ala Leu Cys Phe Asp Glu Arg Tyr Thr Ala Leu Asn His Cys Ser  
 85 90 95  
 Val Gln Leu Trp Tyr Phe Leu Leu Leu Val Leu Thr Ala Ile Thr Ile  
 100 105 110  
 Val Met Leu Ile Tyr Val Met Gly Thr Ile Leu Met Leu Ser Met Leu  
 115 120 125  
 Val Leu Pro Val Ala Ile Ala Cys Arg Phe Ser Tyr Lys Met Thr Arg  
 130 135 140  
 Ile Met Phe Ile Ser Val Leu Leu Asn Ile Leu Cys Ser Phe Ser Gly  
 145 150 155 160  
 Ile Cys Ile Ala Tyr Cys Leu Asp Phe Pro Val Gly Pro Thr Ile Ser  
 165 170 175  
 Leu Leu Met Gly Leu Xaa Tyr Thr Ala Ser Leu Val  
 180 185

&lt;210&gt;1207

&lt;211&gt;112

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1207

Val Phe Ser Tyr Leu Leu Leu Cys Ile Ile Leu Val Tyr Val Arg Phe  
 1 5 10 15  
 Met Tyr Glu Gly Lys Ser Arg Met Ala Ser Pro Thr Pro Gly Gln Leu  
 20 25 30  
 His Leu Gln Gln Lys Val Glu Ser Lys Ala Tyr Asp Tyr Ser Arg Ser  
 35 40 45  
 Leu Ala Met Ile Ala Thr Ala Leu Leu Phe Phe Ile Val Ala Leu Ile  
 50 55 60  
 Leu Ser Gly Leu Ser Leu Leu Pro Gln Val Phe Leu Pro Phe Ser Gly  
 65 70 75 80  
 Ala Tyr Phe Ile Ile Gly Ser Phe Leu Ala Phe Ile Ala Leu Gly Ile  
 85 90 95  
 Leu Leu Ile Asn Cys Val Cys Asp Leu Lys Gln Tyr Leu Thr Ser Ser  
 100 105 110

&lt;210&gt;1208

&lt;211&gt;320

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1208

Val Leu Ile Ser Ile Ser Leu Ala Thr Leu Pro Ile Leu Ala Phe Ser  
 1 5 10 15  
 Trp Ala Ser Phe Ile Glu Pro Asn Trp Leu Arg Thr Thr Ala Ile Pro  
 20 25 30  
 Trp Arg Leu Pro Lys Lys His Ala His Leu His Gly Leu Arg Ile Ala  
 35 40 45  
 Gln Ile Ser Asp Leu His Phe His Lys Arg Val Pro Glu Lys Phe Leu  
 50 55 60  
 Asn Lys Val Ser Lys Ser Ile Lys Asn Phe Ser Pro Asp Leu Ile Val  
 65 70 75 80  
 Phe Cys Gly Asp Leu Leu Cys Arg Ala Arg Leu Glu Asp Lys Glu Arg  
 85 90 95  
 Leu Glu Thr Phe Leu Asn Thr Leu Glu Ala Pro Leu Gly Val Phe Ala  
 100 105 110  
 Ile Leu Gly Asn His Asp Tyr Ser Ser Tyr Ile Ser Arg Asn Thr Lys  
 115 120 125  
 Gly Glu Ile Thr Cys Ile Pro Glu Glu Lys Ser Arg Pro Ile Gln Arg  
 130 135 140  
 Ala Ile Ile Ala Val Met Gln Gly Leu Phe Ser Ser Pro Ser Tyr Arg  
 145 150 155 160  
 Tyr Asp Pro Asn Leu Thr Pro Gln Glu Pro His Pro Asp Leu Leu Lys  
 165 170 175  
 Leu Leu Lys Asn Thr Pro Leu Thr Leu Leu His Asn Thr Thr His Val  
 180 185 190  
 Ile Pro Asn Thr Leu Asn Ile Val Gly Leu Gly Asp Leu Phe Ala Arg  
 195 200 205  
 Gln Phe His Pro Glu Gln Ala Phe Lys Asn Tyr Asp Pro Ser Leu Pro  
 210 215 220  
 Gly Leu Leu Leu Ser His Asn Pro Asp Gly Ile Thr Arg Leu Gln Gln  
 225 230 235 240  
 Tyr Pro Gly Asp Phe Val Leu Ser Gly His Ser His Gly Pro Gln Val  
 245 250 255  
 Thr Leu Ser Trp Pro Lys Phe Ala Arg Lys Phe Phe Glu Arg Leu Ser  
 260 265 270  
 Gly Leu Glu Asn Pro Tyr Leu Ala Arg Gly Tyr Phe Val Thr Lys Glu  
 275 280 285  
 Gly Lys Gln Leu Tyr Val Asn Arg Gly Leu Gly Gly Leu Lys Arg Ile  
 290 295 300  
 Arg Phe Cys Ser Pro Pro Glu Ile Cys Tyr Ile Thr Cys Ser Tyr Asp  
 305 310 315 320

&lt;210&gt;1209

&lt;211&gt;185

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1209

Met Thr Ala Thr Met Ser Leu Leu Asn Leu Pro Ser Ser Gln Asp Ser  
 1 5 10 15  
 Ala Ser Glu Asp Ser Thr Ser Gln Ser Gln Ile Phe Asp Pro Ile Arg  
 20 25 30  
 Asn Arg Glu Leu Val Ser Thr Pro Glu Glu Lys Val Arg Gln Arg Leu  
 35 40 45  
 Leu Ser Phe Leu Met His Lys Leu Asn Tyr Pro Lys Lys Leu Ile Ile  
 50 55 60  
 Ile Glu Lys Glu Leu Lys Thr Leu Phe Pro Leu Leu Met Arg Lys Gly  
 65 70 75 80  
 Thr Leu Ile Pro Lys Arg Arg Pro Asp Ile Leu Ile Ile Thr Pro Pro  
 85 90 95  
 Thr Tyr Thr Asp Ala Gln Gly Asn Thr His Asn Leu Gly Asp Pro Lys  
 100 105 110  
 Pro Leu Leu Ile Glu Cys Lys Ala Leu Ala Val Asn Gln Asn Ala  
 115 120 125  
 Leu Lys Gln Leu Leu Ser Tyr Asn Tyr Ser Ile Gly Ala Thr Cys Ile  
 130 135 140  
 Ala Met Ala Gly Lys His Ser Gln Val Ser Ala Leu Phe Asn Pro Lys  
 145 150 155 160  
 Thr Gln Thr Leu Asp Phe Tyr Pro Gly Leu Pro Glu Tyr Ser Gln Leu  
 165 170 175  
 Leu Asn Tyr Phe Ile Ser Leu Asn Leu  
 180 185

&lt;210&gt;1210

&lt;211&gt;173

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1210

Met Ala Asp Asp Thr Leu Ile Pro Lys Leu Met Lys Asn Ser Leu Ser  
 1 5 10 15  
 Gln Ala Cys Ser Glu Gly Leu Leu Ile Ala Lys Tyr Pro Pro Leu Gln  
 20 25 30  
 Val Ile Val His Phe Asp Asn Asn Leu Val Val Lys Thr His Leu Ser  
 35 40 45  
 Val Ala Pro Val Phe Ser Cys Leu Phe Leu Gly Pro Ala Ala His Lys  
 50 55 60  
 Ala Met Gln Glu Ile Val Leu Trp Cys Ser Arg Tyr Ala Asn Lys Glu  
 65 70 75 80  
 His Pro Pro Phe Ser Ser His Phe Ala Lys Asp Leu Ile Pro Ser Gln  
 85 90 95  
 Tyr Leu Glu Ile Leu Asn Cys Val Ala Glu Ile Pro Phe Gly Glu Gln  
 100 105 110  
 Gln Thr Tyr Ala Glu Ile Ala Lys Lys Thr Asp Thr His Pro Arg Thr  
 115 120 125  
 Val Gly Ala Ala Cys Lys Gln Asn Pro Phe Leu Leu Phe Phe Pro Cys  
 130 135 140  
 His Arg Val Val Gly Ser His Gly Glu Arg Asn Tyr Val Leu Gly Pro  
 145 150 155 160  
 Val Ile His Glu Ile Leu Leu Lys Phe Glu Asn Ser Tyr  
 165 170

&lt;210&gt;1211

&lt;211&gt;137

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1211

Met Ile Glu Asn Asp Phe Pro Glu Ala Ser Asn Phe Glu Ser Ser His  
 1 5 10 15  
 Phe Tyr Arg Asp Lys Val Gly Val Ile Leu Cys Gly Gly Glu Gly  
 20 25 30  
 Lys Arg Leu Ser Pro Leu Thr Asn Cys Arg Cys Lys Pro Thr Val Ser  
 35 40 45  
 Phe Gly Gly Arg Tyr Lys Leu Ile Asp Ile Pro Ile Ser His Ala Ile



50	55	60
Ser Ala Gly Phe Ser Lys	Ile Phe Val Ile Gly Gln Tyr Leu Thr Tyr	
65	70	75
Thr Leu Gln Gln His Leu Phe Lys Thr Tyr Phe Tyr His Gly Val Leu		80
	85	90
Gln Asp Gln Ile His Leu Leu Ala Pro Glu Ala Arg Gln Gly Asp Gln		95
	100	105
Ile Trp Tyr Gln Gly Thr Gln Met Gln Phe Glu Lys Thr Tyr Phe Ile		110
	115	120
Ser Lys Ile Gln Lys Ser Asn Thr Phe		125
130	135	

&lt;210&gt;1212

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1212

Met Leu Ile Arg Leu Phe Leu Gly Ile Ser Leu Pro Lys Gly Phe Pro	
1	5
Leu Tyr Leu Glu Pro Pro Leu Val Leu Ala Thr Phe Gln Gly Thr Gln	
	20
Phe Val Gly Thr Tyr Ser Glu Ala Thr Asn Pro Leu Tyr Ile Asp Asn	
	35
Leu Asn Leu Asn Tyr His Tyr Thr Gln Glu Leu Leu Tyr Lys Ala Val	
	50
Pro Cys Asn Tyr Lys Ser Ile Tyr Arg Glu Ile Pro Leu Ile Ile Phe	
	65
Pro Glu Val Leu Ile Gly Ser Thr Pro Thr Gln Ser Thr Glu	
	85

&lt;210&gt;1213

&lt;211&gt;168

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1213

Met Arg Gln Phe Cys Asn Leu Leu Ser Leu Ser Arg Leu Trp Leu Ala	
1	5
Leu Tyr Phe Cys Gln Glu Lys Leu His Ile Arg Leu Leu Ala Ile Val	
	20
Gly Ala Met Leu Ser Asp Val Leu Asp Gly Tyr Leu Ala Arg Arg Tyr	
	35
Lys Ala Thr Ser Arg Leu Gly Ser Ile Leu Asp Pro Ile Thr Asp Lys	
	50
Val Phe Val Phe Val Cys Ile Thr Val Leu Tyr Met Glu Gly Ser Leu	
	65
Ser Ile Ala His Leu Phe Phe Ile Cys Ala Arg Asp Leu Phe Leu Xaa	
	85
Thr Phe Val Phe Tyr Leu Ser Leu Val Lys Gly Trp Lys Gly Tyr Asp	
	100
Tyr Gly Ser Leu Phe Trp Gly Lys Ile Phe Thr Val Val Gln Phe Ile	
	115
Ile Leu Leu Gly Val Thr Ala Gly Gly Glu Ile Pro Trp Thr Gly Leu	
	130
Val Pro Leu Val Ala Leu Gly Phe Leu Tyr Phe Leu Glu Arg Ile Met	
	145
Asp Tyr Lys Lys Gln Phe Leu Arg	
	165

&lt;210&gt;1214

&lt;211&gt;88

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1214

Met Ser Arg Ser Leu Arg Lys Gly Pro Phe Val Asp His His Leu Leu	
1	5
Lys Lys Val Arg Ala Met Asn Ile Glu Glu Lys Lys Thr Pro Ile Lys	
	20
	25
	30

Thr Trp Ser Arg A Ser Met Ile Thr Pro Glu Met I Gly His Thr  
 35 40 45  
 Phe Glu Val His Asn Gly Lys Lys Phe Leu Thr Val Phe Val Ser Glu  
 50 55 60  
 Thr Met Val Gly His Lys Leu Gly Glu Phe Ser Pro Thr Arg Ile Phe  
 65 70 75 80  
 Lys Ser His Pro Val Lys Lys Gly  
 85

&lt;210&gt;1215

&lt;211&gt;252

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1215

Met Leu Ile Val Leu Ala Phe Arg Gln Val Phe Phe Ser His Ser Arg  
 1 5 10 15  
 Ser Gln Leu Asp Arg Leu Lys Asn Tyr Leu Arg Leu Leu Lys Gln Asn  
 20 25 30  
 Phe Ala Ile Thr Leu Pro Lys Glu Arg Thr Ser Lys Gly His Ser Leu  
 35 40 45  
 Met Leu Thr Phe Asp Phe Ala Ser Phe Asp Phe Tyr Thr Asn Ile Phe  
 50 55 60  
 Pro Phe Leu Glu Glu Gln Lys Ile Pro Ala Val Val Gly Val Ala Ser  
 65 70 75 80  
 Arg Tyr Ile Pro Ser Asn Ala Ala Gln Asp Leu His Pro Ser His Arg  
 85 90 95  
 Leu Lys Pro Ser Glu Thr Leu Ala Phe Gln Asp Glu Ile Phe Ser Asn  
 100 105 110  
 Tyr Met Pro Phe Cys Cys Gln Asn Glu Leu Ile Glu Met Ala Lys Ser  
 115 120 125  
 Pro Tyr Ile Gln Leu Ala Ser Ser Gly Phe Ala Ile Arg Asn Leu Met  
 130 135 140  
 Asn Asn Pro Pro Tyr Leu Thr Thr Glu Ile Leu Leu Ser Arg His His  
 145 150 155 160  
 Ile Glu Thr Ile Thr Gly Ala Lys Pro Leu Ala Phe Leu Phe Pro Phe  
 165 170 175  
 Gly Lys Ser Asp Pro Thr Ser Arg Lys Leu Ala Ala Asp His Tyr Pro  
 180 185 190  
 Tyr Ser Phe Leu Leu Gly Asn Thr Ile Asn Arg Lys Leu Lys Thr His  
 195 200 205  
 Asn Ile Tyr Arg Leu Asp Ile Lys Pro Met Gln Tyr Val Cys Pro Ser  
 210 215 220  
 Leu Phe Gln Ser Ser Arg Tyr Leu Lys Asn Trp Ile Lys Glu Lys Ser  
 225 230 235 240  
 Lys Gln Leu Tyr Leu Lys Lys Gln Leu Pro Lys Arg  
 245 250

&lt;210&gt;1216

&lt;211&gt;149

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1216

Met Ala Asp Leu Glu Val Phe Gln Ala Asp Phe Ala Leu Leu Phe Glu  
 1 5 10 15  
 Ala Gly Leu Leu Ala Ile Lys Gln Gly Asp Glu Asp Ser Ala Arg Lys  
 20 25 30  
 Leu Phe Gln Ser Leu His Ile Leu Asn Pro Asn His Tyr Gly His Asp  
 35 40 45  
 Leu Gly Leu Ala Leu Ile Ser Leu His Lys Met Asp Leu Phe Asp Ala  
 50 55 60  
 Glu Glu Arg Leu Ser Ala Leu Ile Lys Gly Asn Glu Asp Asn Trp Ser  
 65 70 75 80  
 Ile Lys Ala Phe Leu Ser Leu Thr His Met Leu Ile Val Leu His Gln  
 85 90 95  
 Gly Ser Ser Phe Glu Val Arg Arg Glu Ser Leu Glu Ser Cys Leu Lys  
 100 105 110

Phe Ala Asp Gln Val  Ala Asn Cys Lys Ile Glu Ser  Arg Ala  
                   115                                  120                                  125  
 Leu Ala Gln Ser Val Leu Asp Trp His Asp Thr Leu Val Ala Lys Ser  
                   130                                  135                                  140  
 Ala Gly Pro Leu Gly  
 145  
 <210>1217  
 <211>75  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1217  
 Met Phe Phe Ala Pro Leu Leu Tyr Glu Ser Leu Arg Arg Gly Leu Met  
       1                                  5                                  10                                  15  
 His Pro Thr Ser His Met Gln Gln Gln Leu Ala Arg Leu Glu Phe Ile  
                   20                                  25                                  30  
 Asn Asp Gln Leu Thr Thr Glu Leu Glu His Val Asn Glu Leu Leu Cys  
                   35                                  40                                  45  
 Ser Leu Gly Phe Pro Glu Gly Leu Thr Thr Ile Lys Ala Ile Ala Glu  
                   50                                  55                                  60  
 Glu Val Leu Ser Asp Asp Glu Pro Leu Leu Asp  
                   65                                  70                                  75  
 <210>1218  
 <211>467  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1218  
 Leu Pro Ser Asn Arg Lys Asn Ala Lys Arg Asn Leu Tyr Lys Leu Ser  
       1                                  5                                  10                                  15  
 Phe Ile Ile Val Arg Lys Cys Val Val Thr Ser Ala Leu Asn Asp Phe  
                   20                                  25                                  30  
 Phe Leu Thr Glu Thr Val Met Asn Ala Thr Lys His Cys Arg Ala Ser  
                   35                                  40                                  45  
 Phe Ser Asn Ser Pro Arg His Leu Leu Ala Gln Leu Ala Glu Asp Ile  
                   50                                  55                                  60  
 Thr Ser Thr His Gln Lys Pro Phe Thr Lys Arg Trp Ile Leu Val Ala  
                   65                                  70                                  75                                  80  
 Asn Ala Thr Thr Gly His Trp Ile Lys Asn Gln Leu Val His Val Leu  
                   85                                  90                                  95  
 Ser Asp His Ile Phe Met Gly Ser Thr Ile Phe Thr Ala Ser Asp Ser  
                   100                                  105                                  110  
 Ile Val Lys His Leu Phe Leu Gly Ser Gly Cys Ser Gln Pro Asn Ile  
                   115                                  120                                  125  
 Pro Asp Tyr Leu Thr Leu Pro Leu Leu Ile Asn Asn Ile Leu Glu Glu  
                   130                                  135                                  140  
 Ile Ser Lys Ala Ser Lys Phe Glu Asn Gly Arg Glu Phe Leu Ser Pro  
                   145                                  150                                  155                                  160  
 Pro Thr Tyr Gly Thr Thr Lys Lys Leu Ala Ala Ala Phe Lys Gln Phe  
                   165                                  170                                  175  
 His Thr Phe Ser Gln Arg Pro Thr Lys Asn Ala Ser His Tyr Gln Glu  
                   180                                  185                                  190  
 Leu Phe Gln Ile Leu Glu Ser His Phe Ser Ser Tyr Glu Glu Met Phe  
                   195                                  200                                  205  
 Thr Thr Ile Leu Asn Asn Arg Thr Gln Glu Glu Asp Cys Ser Leu His  
                   210                                  215                                  220  
 Ile Phe Gly Tyr Ala His Leu Pro Lys His Leu Ala Glu Phe Phe Ile  
                   225                                  230                                  235                                  240  
 Asn Leu Ser Thr Tyr Phe Pro Val Tyr Phe Tyr Cys Phe Ser Pro Cys  
                   245                                  250                                  255  
 Arg Glu Tyr Phe Gly Asp Leu Leu Ser Asp Arg Ala Ile Asp Phe Phe  
                   260                                  265                                  270  
 Trp Asn Gln Leu Pro Asp Ser Pro Ile Lys Asn Ala Trp Glu His Tyr  
                   275                                  280                                  285  
 Val Leu Ser Asp Arg Gln Ala Leu Leu Ala Asn Leu Ala His Lys Ser  
                   290                                  295                                  300

Gln Ser Ser Gln Phe Phe Leu Asp Arg Glu Ile A Tyr Gln Glu  
 305 310 315 320  
 Met Phe Leu Pro Ser Lys His Asp Ser Ser Leu Gly Val Ile Gln Asn  
 325 330 335  
 Ser Ile Leu Asp Leu Lys Pro Thr Ser Pro Gln Asp Phe Ser Gln Thr  
 340 345 350  
 Lys Gln Thr Ile Cys Ile Tyr Arg Ala Leu Asn Ile Pro Arg Glu Val  
 355 360 365  
 Gln Glu Val Phe Cys Lys Val Thr Glu Leu Leu His Arg Gly Val Ser  
 370 375 380  
 Pro Glu Glu Ile Phe Ile Leu Ser Ser His Ile Glu Ser Tyr Lys Val  
 385 390 395 400  
 His Leu Asn Ala Ile Phe Asn Pro His Val Pro Ile Tyr Phe Thr Asp  
 405 410 415  
 Glu Val Asp Pro Arg Ala Glu Asp Leu Arg Asn Lys Asn Pro Pro Thr  
 420 425 430  
 Phe Phe Tyr Phe Thr Asn Thr Arg Gly Phe Thr Leu His Ser Ser Thr  
 435 440 445  
 Pro Tyr Ala Pro Thr Thr Thr Thr Thr Tyr Arg Ser Lys Gln Gly Ser  
 450 455 460  
 Leu Ser Asp  
 465

&lt;210&gt;1219

&lt;211&gt;81

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1219

Leu Glu Ala Pro Met Asn Glu Gly Ile His Ser Val Cys Phe Gln Lys  
 1 5 10 15  
 Thr Pro Arg Leu Thr Ala Lys Ser Val Val Ser Met Glu Met Leu Leu  
 20 25 30  
 Thr Thr Gln Gln Leu Pro Ser Ala Glu Gly Met Pro Ser Val Ala Asn  
 35 40 45  
 Leu Glu Ala Asp Phe Leu Arg Ala Glu Ala Leu Leu Ala Glu Met Arg  
 50 55 60  
 Glu Ile Arg Gly Cys Leu Glu Gln Ser Leu Arg Thr Leu Val Pro Ser  
 65 70 75 80  
 Glu

&lt;210&gt;1220

&lt;211&gt;95

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1220

Met Met Lys Tyr Leu Pro Tyr Ile Ala Ile Thr Ala Cys Ile His Gly  
 1 5 10 15  
 Gly Ile Leu Leu Leu Val Phe Ala Ser Pro Leu Pro Lys Lys Arg Leu  
 20 25 30  
 Gln Pro Lys Ala Phe Gln Glu Lys Leu Val Thr Ile Gln Pro Lys Pro  
 35 40 45  
 Pro Val Pro Thr Pro Ser Val Val Val Asp Pro Ala Lys Thr Ile Arg  
 50 55 60  
 Pro Ser Val Leu Arg Ser His Lys Asn Lys Leu Asn Ala Ala Leu Leu  
 65 70 75 80  
 Lys Arg Thr Ser Arg Arg Leu Tyr Lys Asn Pro Phe Gln Lys Leu  
 85 90 95

&lt;210&gt;1221

&lt;211&gt;96

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1221

Leu Asn Lys Phe Lys Thr Tyr Leu Gln Thr Ala Leu Ile Ala Pro Phe  
 1 5 10 15  
 Phe Ser Phe Pro Ala Leu Ser Gly Ser Phe Ser Ser Ile Gln Ala Glu

20 25  
 Glu Ile Xaa Gln Gln Val Asn His Pro Gly Ala Glu Leu Leu Ser Glu  
 35 40 45  
 Gly Ser Tyr Ile Pro Gly Leu Gln Thr Phe Arg Leu Gly Ile Lys Ile  
 50 55 60  
 Tyr Ser Phe Gln Arg Glu Pro Tyr Leu Leu Glu Ser Arg Arg Asn  
 65 70 75 80  
 Trp Lys Ser Ser Gln Asn Phe Leu Ala Val Ala Glu Arg Phe Arg Gly  
 85 90 95

&lt;210&gt;1222

&lt;211&gt;76

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1222

Val Arg Ala Leu Phe Arg Ser Gly Tyr Lys Gly Arg Gln Gly Ile Tyr  
 1 5 10 15  
 Glu Phe Leu Arg Pro Asn Thr Leu Phe Arg Ser Glu Val Ala Ser Asn  
 20 25 30  
 Arg Pro Tyr His Ile Leu Arg Glu Thr Ala Glu Gln Asn Gly Phe Leu  
 35 40 45  
 Pro Ile Leu Glu His Gly Ile Ala Leu Ala Val Ser Gly Glu Thr Thr  
 50 55 60  
 Leu Ala Glu Val Leu Arg Val Thr Lys Arg Cys Asp  
 65 70 75

&lt;210&gt;1223

&lt;211&gt;185

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1223

Val Pro Thr Leu Ala Lys Ser Phe Tyr Ile Asn Ile Arg Asp Ser Arg  
 1 5 10 15  
 Phe Tyr Ser Trp Leu Cys Phe Ile Met Lys Glu Thr Tyr Tyr Arg Asp  
 20 25 30  
 Phe Leu His Glu Asn Tyr Leu Lys Asn Lys Lys Ser Met Phe Met Lys  
 35 40 45  
 Ile Tyr Lys Thr Ala Gly Glu Phe Phe Leu Ala Asn Ala Lys Trp Pro  
 50 55 60  
 Leu Val Pro Ala Gly Tyr Arg Arg Val Arg Gly Lys Asp Phe Val Leu  
 65 70 75 80  
 Ser Pro Leu Val Asp Leu Val Ile Leu Phe Pro Trp Val Thr Lys Asp  
 85 90 95  
 Ser Arg Tyr Ser Pro Cys Ser Met Thr Phe Thr Cys Ile Cys Arg Ser  
 100 105 110  
 Ile Val Glu Cys Ile Pro Val Val Ser Thr Leu Phe Gly Ile Gly Arg  
 115 120 125  
 Phe Cys Ala Val Trp Cys Val Glu Gly Phe Ser Gly Ser Thr Phe Asp  
 130 135 140  
 Lys Ile Tyr His Thr Ile Val Ala Val Leu Gly Ile Leu Gly Leu Gly  
 145 150 155 160  
 Ile Leu Thr Phe Ile Leu Arg Ile Ile Phe Ser Val Leu Met Leu Pro  
 165 170 175  
 Val Trp Phe Leu Phe Lys Cys Tyr Ser  
 180 185

&lt;210&gt;1224

&lt;211&gt;75

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1224

Met Trp Trp Asn Pro Ala Val Glu Asn Gln Ala Thr Asp Arg Val His  
 1 5 10 15  
 Arg Ile Gly Gln Ser Arg Ser Val Ser Ser Tyr Lys Leu Val Thr Leu  
 20 25 30  
 Asn Thr Ile Glu Glu Lys Ile Leu Thr Leu Gln Asn Arg Lys Xaa Ser  
 35 40 45

Leu Val Lys Lys Ile Asn Ser Asp Asp Glu Val Val Ser Lys Leu  
 50 55 60  
 Thr Trp Glu Glu Val Leu Glu Leu Leu Gln Ile  
 65 70 75  
 <210>1225  
 <211>122  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1225  
 Met Arg Asp Arg Leu Gly Ser Leu Ser Leu Ile Leu Lys Val Lys Ile  
 1 5 10 15  
 His Lys Tyr Leu Asp Thr Leu His Asn Gln Lys Arg Leu Ala Leu Thr  
 20 25 30  
 Val Ser Arg Asn Ile Gln Ala Thr Asn Lys Arg Ile Ala Asp Leu His  
 35 40 45  
 Leu Glu Arg Tyr Glu His Phe Ile Ser Arg Asp Asn Ile Lys His Tyr  
 50 55 60  
 Asp Ile Leu Leu Glu Tyr Leu Lys Thr Leu Gln Ser Ser Leu Tyr Lys  
 65 70 75 80  
 Gln Gln Ser Glu Ser Leu Arg Phe Leu Glu Ile His His Gln Gln Leu  
 85 90 95  
 Gln Glu Leu Ile Asn Arg Arg Lys Ile Ile Glu Lys Ile Lys Asn Asn  
 100 105 110  
 Lys Tyr Ser Lys Asp Gln Glu Ile Gly Thr  
 115 120  
 <210>1226  
 <211>178  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1226  
 Val Thr Thr Pro Gln Ser Pro Gly Ser Leu Ser Gln Ser His Leu Pro  
 1 5 10 15  
 His Pro His Asp Pro Trp Asp Thr Glu Pro Thr Ser Leu Xaa Glu Xaa  
 20 25 30  
 Pro Asn Asp Lys Ala Ser Gln Glu Leu His Ser Leu Val His Leu Phe  
 35 40 45  
 Arg Lys Leu Ser Ile His Leu Leu Ser Glu Val Glu Lys Thr Val Gln  
 50 55 60  
 Gln Leu Lys Pro Asp Leu Leu Glu Leu Ala Leu Leu Ile Cys Glu Lys  
 65 70 75 80  
 Phe Leu Tyr Lys Lys Leu Glu Asn Pro Gln Glu Leu Ala Leu Leu Leu  
 85 90 95  
 Ser Thr Ala Leu Gln Arg His Thr Thr Leu Arg Ser Leu Thr Pro Ile  
 100 105 110  
 Lys Val Phe Leu His Pro Glu Asp Leu Lys Thr Leu Thr Asp Trp Ile  
 115 120 125  
 Ser Thr His Glu Leu Pro Met Ile Lys His Ala Glu Phe Phe Pro Asp  
 130 135 140  
 Thr Ser Cys Arg Arg Ser Gly Phe Lys Ile Glu Thr Pro Asn Gly Ile  
 145 150 155 160  
 Leu Arg Gln Glu Ile Ser Glu Glu Leu Asp His Leu Leu Ser Val Leu  
 165 170 175  
 Thr Ala  
 <210>1227  
 <211>161  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1227  
 Leu Leu Leu Arg Tyr His Ala Lys Ala Glu Lys Pro Thr Leu Gln Leu  
 1 5 10 15  
 Thr Leu Asn Glu Asn Tyr Ile Ala His Leu Thr Lys Glu Glu Ser Glu  
 20 25 30  
 Lys Ile Val Ala His Thr Lys His Tyr Leu Leu Ser Asn Xaa Asp Asp

35 40 45  
 Ser Tyr Asp Ile Val Ile Glu Thr Leu Pro Phe Ala Arg Leu Gln Asn  
 50 55 60  
 Lys Lys Ser Phe Ser Ala Lys Val Leu Ile Gly Ser Met Ile Leu Val  
 65 70 75 80  
 Ile Ser Leu Met Ile Val Ala Leu Ala Ser Phe Tyr Leu Ala Arg His  
 85 90 95  
 Ala Tyr Glu Arg Val Ser Pro Glu Pro Arg Lys Ile Lys Arg Gly Ile  
 100 105 110  
 Asn Ile Ser Lys Leu Leu Glu Ile Ile Gln Lys Glu Ser Pro Glu Lys  
 115 120 125  
 Ile Ala Leu Ile Leu Ser Tyr Leu Asp Pro Lys Lys Ala Glu Ala Leu  
 130 135 140  
 Leu Asn Arg Leu Pro Glu Asp Leu Lys His Gln Val Leu Lys Tyr Lys  
 145 150 155 160  
 Leu

&lt;210&gt;1228

&lt;211&gt;75

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1228

Val Phe Phe Gln Asn Leu Ala Lys Lys Leu Thr Ala Leu Gly Ile Ser  
 1 5 10 15  
 Pro Leu Gly Cys Leu Leu Ile Gly Gly Val Val Ser Cys Ala Ile Leu  
 20 25 30  
 Phe Gly Arg Ser Ser Asn Pro Ser Leu Ala Pro Thr Gln Val Lys Thr  
 35 40 45  
 Glu Lys Thr Ser Gly Asn Trp Leu Lys Leu Thr Gln Met Gly Asn Pro  
 50 55 60  
 Lys Leu Ile Glu Ser Leu Thr Lys Lys Asp Ser  
 65 70 75

&lt;210&gt;1229

&lt;211&gt;100

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1229

Met Gly Tyr Val Phe Tyr Val Ile Ala Gly Ser Ile Phe Leu Gly Ile  
 1 5 10 15  
 Ser Leu Gly Ala Tyr Cys Gln Leu Tyr Tyr Ser Val Lys Ser Val Leu  
 20 25 30  
 Phe Ser Trp Tyr Leu Leu Thr Val Tyr Ala Leu Glu Lys Arg His Ala  
 35 40 45  
 Leu Leu Ala Leu Ser Gln Leu Val Gly Glu Glu Asp Ala Gln Ser Gln  
 50 55 60  
 Lys Glu Ile Asp Phe Leu Ser Gln Cys Asp Lys Leu Ser Trp Arg Ala  
 65 70 75 80  
 Phe Leu Lys Asn Ser Tyr Glu Ile Ile Pro Thr Phe Gln Arg Asp Gly  
 85 90 95

Arg Pro Ser Phe

100

&lt;210&gt;1230

&lt;211&gt;103

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1230

Val Thr Ser Ser Leu Gly Val Arg Ser Ser Lys Ile Ala Thr Arg Ser  
 1 5 10 15  
 Ser Gln His Phe Lys Glu Met Glu Asp Leu Leu Ser Glu Arg Val Gln  
 20 25 30  
 Gly Phe Leu Glu Ser Ile Glu Thr Ile Ala Glu His Asp Arg Ala Ile  
 35 40 45  
 Leu Cys Ile Glu Asn Phe Trp Ala Ser Lys Asn Leu Phe Asp Phe Glu  
 50 55 60

Ile Ala Ala Tyr      Glu Ala Val Glu Lys Tyr Leu Lys Leu Arg Gln  
 65                      70                      75                      80  
 Arg Ala Pro Leu Arg Leu Ala Ser Lys Leu Phe Arg Phe Leu Asp Val  
                          85                      90                      95  
 Pro Ser Ile Arg Phe Ser Ser  
                          100

&lt;210&gt;1231

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1231

Ser Ile Ala Thr Gly Glu Thr Met Leu Tyr Phe Ile Glu Gln Leu Asn  
 1                      5                      10                      15  
 Lys Leu Ser Thr Ser Phe Cys Val Phe Pro Met Ile Leu Leu Leu Gly  
                          20                      25                      30  
 Gly Phe Leu Thr Trp Lys Leu Arg Gly Leu Gln Phe His Gly Leu Lys  
                          35                      40                      45  
 Leu Gly Phe Asn Leu Met Leu Gln Asn Lys Leu Asp Asp Ser Ser Ser  
                          50                      55                      60  
 Lys Ala Asn Glu Val Ser Ser Tyr Glu Ala Val Ala Gly Ile Leu Ala  
                          65                      70                      75                      80  
 Gly Asn Phe Gly Thr Gly Asn Ile Ala Gly Met Leu Ser Pro  
                          85                      90

&lt;210&gt;1232

&lt;211&gt;240

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1232

Val Pro Asn Arg His Val Asp Met Asn Ser Trp Trp Arg Ser Ala Cys  
 1                      5                      10                      15  
 Tyr Pro Arg Ser Thr Phe Tyr Pro Leu Ser Asp Gly Asp Ser Thr Phe  
                          20                      25                      30  
 His Arg Arg Ile Thr Lys Pro Asp Phe Arg Leu Cys Ser Thr Cys Lys  
                          35                      40                      45  
 Ser Cys Ser Gln Pro Ile Leu Tyr Leu Tyr Ala Leu Leu Val Ile Ala  
                          50                      55                      60  
 Asn His Asp Glu Ile Ser Phe Gly Leu Leu Arg Tyr Phe Leu Gly Gly  
                          65                      70                      75                      80  
 Tyr Arg Pro Ser Lys Thr Ala Arg Leu Ala Met Ser Ile Leu Gln Ile  
                          85                      90                      95  
 His Gly Val Met Leu Asp Ser Gln Leu Val Lys Thr Ser Ile Ser Thr  
                          100                      105                      110  
 Met Thr Pro Thr Leu Leu Thr Lys Ser Val His Ser Leu Leu Ala Ile  
                          115                      120                      125  
 Leu His Ile Thr Asn Gln Lys Ser Ile Pro Lys Tyr Ser Lys Gly Ser  
                          130                      135                      140  
 Arg Gly Leu Phe Val Leu Leu Arg Val Asn Ser Ile Phe Thr Ala Thr  
                          145                      150                      155                      160  
 Thr Ile Ser Pro Ser Leu Ser Leu Arg Gln Cys Pro Asp Arg Tyr Thr  
                          165                      170                      175  
 Ile Arg Ala Gly Arg Asn Leu Pro Asp Lys Glu Phe Arg Tyr Leu Ser  
                          180                      185                      190  
 Thr Val Ile Val Thr Ala Ala Ile His Gln Gly Leu Gly Ser Met Leu  
                          195                      200                      205  
 Ser Leu Arg Leu Thr Tyr Pro Phe Asn Leu Leu Ala Leu Gly Arg Arg  
                          210                      215                      220  
 His Thr Ile Tyr Phe Pro Leu Glu Val Cys Ile Val Leu Cys Phe Cys  
                          225                      230                      235                      240

&lt;210&gt;1233

&lt;211&gt;133

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1233

Leu Asn Phe Val Ser Thr Leu Thr Gly Ser Asp Phe Tyr Ala Pro Val



1 5 10 15  
 Leu Glu Lys Leu Glu Glu Ala Phe Ala Asp Thr Thr Gly Gln Ala Ile  
 20 25 30  
 Leu Phe Ser Ser Ser Pro Asp Phe Ile Val His Pro Ile Ala Gln Gln  
 35 40 45  
 Leu Gly Ile Ser Ser Trp Tyr Ala Ser Cys Tyr Arg Asp Gln Ser Ala  
 50 55 60  
 Glu Gln Thr Ile Tyr Lys Lys Cys Leu Thr Gly Asp Lys Lys Ala Gln  
 65 70 75 80  
 Ile Leu Ser Tyr Ile Lys Lys Ile Asn Gln Ala Arg Ser His Thr Phe  
 85 90 95  
 Ser Asp His Ile Leu Asp Leu Pro Phe Leu Met Leu Gly Glu Glu Lys  
 100 105 110  
 Thr Val Val Arg Pro Gln Gly Arg Leu Lys Lys Met Ala Lys Lys Tyr  
 115 120 125  
 Tyr Trp Asn Ile Val  
 130

&lt;210&gt;1234

&lt;211&gt;118

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1234

Val Ile Leu Leu Gln Asn Ile Lys Arg Cys Ser Leu Lys Gln Leu Lys  
 1 5 10 15  
 Val Leu Ala Thr Leu Leu Leu Ser Leu Ser Leu Pro Thr Leu Glu Ala  
 20 25 30  
 Ala Glu Asn Arg Asp Ser Asp Ser Ile Val Trp His Leu Asp Tyr Gln  
 35 40 45  
 Glu Ala Leu Gln Lys Ser Lys Glu Ala Glu Leu Pro Leu Leu Val Ile  
 50 55 60  
 Phe Ser Gly Ser Asp Trp Asn Gly Pro Cys Met Lys Ile Arg Lys Glu  
 65 70 75 80  
 Val Leu Glu Ser Pro Glu Phe Ile Lys Arg Val Gln Gly Lys Phe Val  
 85 90 95  
 Cys Val Glu Val Glu Tyr Leu Lys His Arg Pro Gln Leu Lys Thr Phe  
 100 105 110  
 Val Ser Lys Ile Leu Leu  
 115

&lt;210&gt;1235

&lt;211&gt;87

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1235

Met Lys Ser Phe Lys Phe Leu Leu Pro Phe Leu Ser Val Ile Leu Cys  
 1 5 10 15  
 Cys Gly Asn Leu Leu Ser Ser Pro Arg Ser Arg Ala Ile Ser Val Thr  
 20 25 30  
 Glu Ser Ile Gly Met Ser Ala Val Lys Thr Leu Val Leu Ser Glu Lys  
 35 40 45  
 Ala His Glu Phe Leu Glu Gly Ile Gly Tyr Gly Val Gly Ala Ser Ser  
 50 55 60  
 Ile Leu Arg Asp Trp Gln Thr Gln Gln Trp Leu Glu Ile Glu Ser Leu  
 65 70 75 80  
 Leu Ala Gln Asn Glu Val Met  
 85

&lt;210&gt;1236

&lt;211&gt;141

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1236

Met Gln Tyr Phe Ser Pro Ala Lys Leu Asn Leu Phe Leu Lys Ile Trp  
 1 5 10 15  
 Gly Lys Arg Phe Asp Asn Phe His Glu Leu Thr Thr Leu Tyr Gln Ala  
 20 25 30

Ile Asp Phe Gly Thr Leu Ser Leu Lys Asn Ser M Lys Asp Ser  
 35 40 45  
 Leu Ser Ser Asn Val Asn Glu Leu Leu Ser Pro Ser Asn Leu Ile Trp  
 50 55 60  
 Lys Ser Leu Glu Ile Phe Arg Arg Glu Thr Gln Ile His Gln Pro Val  
 65 70 75 80  
 Ser Trp His Leu Asn Lys Ser Ile Pro Leu Gln Ser Gly Leu Gly Gly  
 85 90 95  
 Gly Ser Ser Asn Ala Ala Thr Ala Leu Tyr Ala Leu Asn Glu His Phe  
 100 105 110  
 Gln Thr His Ile Pro Ile Thr Thr Leu Gln Leu Trp Ala Arg Glu Ile  
 115 120 125  
 Gly Ser Asp Val Pro Phe Phe Phe Leu Gln Glu Gln His  
 130 135 140

&lt;210&gt;1237

&lt;211&gt;174

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1237

Leu Gly Ser Arg Asn Arg Lys Arg Cys Ser Phe Phe Phe Ser Ser Gly  
 1 5 10 15  
 Thr Ala Leu Gly Lys Gly Arg Gly Glu His Leu Phe Ser Ile Lys Lys  
 20 25 30  
 Leu Asn His Lys His Lys Tyr Val Leu Tyr Leu Asp His Gln Gly Ile  
 35 40 45  
 Pro Thr Glu Lys Ala Tyr Gln Ser Leu Leu Pro Gln Asp Tyr Ser Thr  
 50 55 60  
 Gly Asn His Asn Ala Cys Phe Tyr Gly Glu Asn Asp Leu Glu Lys Ser  
 65 70 75 80  
 Val Phe Arg Ile Arg Thr Asp Leu Lys Asn Lys Lys His Met Leu Glu  
 85 90 95  
 Arg Met Trp Ser Pro Phe Glu Ser His Val Leu Met Ser Gly Ser Gly  
 100 105 110  
 Ala Thr Leu Phe Val Cys Tyr Leu Glu Glu Leu Glu Gln Asp Ser Lys  
 115 120 125  
 Val Ser Ser Gln Ile His Ser Leu Ile Lys Gln Thr Gln Gly Ile Pro  
 130 135 140  
 Val Ser Arg Leu Tyr Arg Glu Pro His Trp Tyr Ser Leu Lys Gln Ser  
 145 150 155 160  
 Thr Tyr Lys Asn Ser Pro Leu Glu Cys Phe Gln Pro Gln Ile  
 165 170

&lt;210&gt;1238

&lt;211&gt;106

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1238

Met Gly Leu Tyr Asp Arg Asp Tyr Ile Gln Asp Ser Arg Val Gln Gly  
 1 5 10 15  
 Thr Phe Ala Ser Arg Val Tyr Gly Trp Met Thr Ala Gly Leu Ile Val  
 20 25 30  
 Thr Ser Cys Val Ala Leu Gly Leu Tyr Phe Ser Gly Leu Tyr Arg Ser  
 35 40 45  
 Leu Phe Ser Phe Trp Trp Val Trp Cys Phe Ala Thr Leu Gly Val Ser  
 50 55 60  
 Phe Phe Ile Asn Ser Lys Ile Gln Thr Leu Ser Val Val Gly Gln Val  
 65 70 75 80  
 Met Ala Tyr Ala Met Val Leu Ala Lys Gly Met Glu Ile Asp Cys Pro  
 85 90 95  
 Arg Asn Leu Ala Lys Ser Val Thr Val Glu  
 100 105

&lt;210&gt;1239

&lt;211&gt;217

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1239

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Met Ser Asn Lys Val Leu Gly Gly Ser Leu Leu Ile Ala Gly Ser Ala
 1          5          10          15
Ile Gly Ala Gly Val Leu Ala Val Pro Val Leu Thr Ala Lys Gly Gly
          20          25          30
Phe Phe Pro Ala Thr Phe Leu Tyr Ile Val Ser Trp Leu Phe Ser Met
          35          40          45
Ala Ser Gly Leu Cys Leu Leu Glu Val Met Thr Trp Met Lys Glu Ser
          50          55          60
Lys Asn Pro Val Asn Met Leu Ser Met Ala Glu Ser Ile Leu Gly His
          65          70          75          80
Val Gly Lys Ile Ser Ile Cys Leu Val Tyr Leu Phe Leu Phe Tyr Ser
          85          90          95
Leu Leu Ile Ala Tyr Phe Cys Glu Gly Gly Asn Ile Leu Cys Arg Val
          100          105          110
Phe Asn Cys Gln Asn Leu Gly Ile Ser Trp Ile Xaa Xaa Leu Gly Pro
          115          120          125
Leu Gly Phe Ala Ile Leu Met Gly Pro Ile Ile Xaa Xaa Gly Thr Xaa
          130          135          140
Xaa Ile Asp Tyr Cys Xaa Xaa Phe Phe Xaa Xaa Gly Leu Xaa Val Xaa
          145          150          155          160
Phe Gly Ile Xaa Xaa Ala Leu Gly Phe Leu Lys Ile Gln Pro Ser Phe
          165          170          175
Met Val Arg Ser Ser Met Val Asn Tyr Asn Lys Arg Ile Ser Cys Val
          180          185          190
Phe Ser Leu Leu Phe Gly Phe Gln Ser Xaa Ile Pro Thr Leu Tyr Tyr
          195          200          205
Tyr Met Asp Lys Lys Ser Trp Arg Cys
          210          215

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&lt;210&gt;1240

&lt;211&gt;115

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1240

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Leu Val Ser Ser Phe Val Gly Val Ala Leu Gly Val Met Asp Phe Leu
 1          5          10          15
Ala Asp Gly Leu Lys Trp Asn Lys Lys Ser His Pro Phe Ser Ile Phe
          20          25          30
Phe Leu Thr Phe Ile Ile Pro Leu Ala Trp Ala Val Cys Tyr Pro Glu
          35          40          45
Ile Val Leu Thr Cys Leu Lys Tyr Ala Gly Gly Phe Gly Ala Ala Val
          50          55          60
Ile Ile Gly Val Phe Pro Thr Leu Ile Val Trp Lys Gly Arg Tyr Gly
          65          70          75          80
Lys Gln His His Arg Glu Lys Gln Leu Val Pro Gly Gly Lys Phe Ala
          85          90          95
Leu Phe Leu Met Phe Leu Leu Ile Val Ile Asn Val Val Ser Ile Tyr
          100          105          110
His Glu Leu
          115

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&lt;210&gt;1241

&lt;211&gt;105

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1241

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Leu Phe Pro Leu Val Leu Leu Ala Trp Val Ile Arg Tyr Gln Leu His
 1          5          10          15
Ala Asn Phe His Cys Ser Val Val Pro Phe Pro Gly Phe Ser Val Asn
          20          25          30
Gln Ala Tyr Lys Cys Ser Glu Ala Lys Ile Glu Glu Met Leu Asp Leu
          35          40          45
Leu Asp Leu Glu Thr Leu Glu Trp Ser Ser Arg Cys Leu Arg Gln Asp
          50          55          60
Met Thr Phe Ala Asn Arg Leu Glu Glu Glu Leu Ile Gln Glu Leu Arg

```

65 70 75 80  
 Val Ser Glu Thr Glu Glu Leu Ile Ser Leu Gly Gly Lys Arg Asn Leu  
 85 90 95  
 Val Arg Leu Leu Leu Thr His Ser Phe  
 100 105

&lt;210&gt;1242

&lt;211&gt;158

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1242

Met Arg Val Ile Phe Pro Asp Lys His Asn Asn Phe Pro Asn Leu Ser  
 1 5 10 15  
 Lys Leu Leu Lys Lys Leu Pro Ser Val Ile Leu Val Thr Ser Cys Ile  
 20 25 30  
 Ala Pro Phe Phe Ser Tyr Ile Ile Asn Lys Phe Phe Gly Ile Pro Gly  
 35 40 45  
 Leu Leu Glu Ile Leu Ala Leu Ser Val Lys Gly Ile Gln Lys His His  
 50 55 60  
 Phe Trp Gln Phe Leu Thr Tyr Pro Leu Ile Thr Ala Asp Ser Leu Ser  
 65 70 75 80  
 Leu Asn Lys Asp Gln Ser Phe Glu Ile Thr Gln Arg Leu Leu Leu Arg  
 85 90 95  
 Asn Val Leu Asp Phe Phe Leu Phe Tyr Lys Ala Ile Gln His Leu Ile  
 100 105 110  
 Arg Lys Leu Gly Ala Phe Ser Val Leu Val Val Ile Ser Gly Gln Ala  
 115 120 125  
 Leu Ile Ile Gly Ala Val Leu Trp Gly Phe Met Ala Leu Ile Thr Ala  
 130 135 140  
 Pro Asn Leu Ser Ser Val Arg Lys Val Leu Ser Val Val Phe  
 145 150 155

&lt;210&gt;1243

&lt;211&gt;135

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1243

Met Arg Leu Lys Asn Tyr Pro Met Ile Gln Phe Ser Phe Phe Leu Pro  
 1 5 10 15  
 Gln Thr Cys Ile Leu Leu Leu Ala Ser Asp Ser Leu Thr Asn Ile Leu  
 20 25 30  
 Ala Leu His His Leu Leu Ala Asn Tyr Ser Val Lys Gln Arg Met Leu  
 35 40 45  
 Val Leu Leu Arg Glu Ser Phe Phe Ala Phe Ile Ala Met Phe Ala Leu  
 50 55 60  
 Tyr Gly Leu Ala Leu Gly Gly Leu Lys Val Leu Asn Thr Pro Val Cys  
 65 70 75 80  
 Ala Ile Glu Val Val Gly Gly Ile Ala Val Thr Leu Ala Gly Val Arg  
 85 90 95  
 Ala Val Leu Arg Leu Gly Lys Glu Glu Ser Trp Ile Pro Tyr Lys Phe  
 100 105 110  
 Asn Met Ser Pro Ser Tyr Ser Pro Cys Ile Ser Pro Ile Ala Leu Pro  
 115 120 125  
 Leu Met Phe Gly Pro Ser Gly  
 130 135

&lt;210&gt;1244

&lt;211&gt;160

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1244

Met Lys Lys Lys Phe Ile Phe Tyr Phe Val Ile Val Phe Ser Leu Leu  
 1 5 10 15  
 Phe Leu Trp Glu Met Thr Ser Arg His Arg Pro Thr Phe Ser Phe Phe  
 20 25 30  
 Cys Pro Pro Pro Ser Ser Ile Ala Ser Ser Thr Leu Gln Ser Leu Pro  
 35 40 45

Leu Leu Leu Thr Ser Ala Trp His Thr Leu Lys Ala Ile L ly Gly  
 50 55 60  
 Phe Phe Leu Ala Ile Thr Leu Ser Ile Val Leu Ala Thr Ile Met Leu  
 65 70 75 80  
 Ser Tyr Lys Ser Ala Lys Asp Leu Leu Gln Pro Leu Phe Ile Leu Leu  
 85 90 95  
 Gln Cys Thr Pro Met Phe Ala Leu Ala Pro Leu Ile Val Leu Trp Phe  
 100 105 110  
 Gly Trp Gly Ile Gly Ala Val Ile Val Pro Thr Ala Leu Thr Ile Phe  
 115 120 125  
 Phe Pro Leu Thr Leu Thr Ile Tyr Gln Gly Ile Leu Ser Thr Pro Glu  
 130 135 140  
 Glu Leu Ile Glu Gln Phe Val Leu Cys Gly Val Gln Asn Ser Asn Ser  
 145 150 155 160

&lt;210&gt;1245

&lt;211&gt;227

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1245

Met Leu Trp Gly Val Ser Met Arg Gln Ser Phe Asp Glu Leu Ser Gln  
 1 5 10 15  
 Asn Ala Phe Lys Asn Ile Phe Asn Lys Gln Arg Phe Cys Phe Ile Phe  
 20 25 30  
 Cys Ser Leu Cys Cys Phe Gly Phe Val Phe Ala Leu Phe Leu Lys Leu  
 35 40 45  
 Cys Ser Arg Leu Ala Pro Glu Ile Ser Leu Ser Thr Leu Gly Leu Gly  
 50 55 60  
 Ala Phe Phe Cys Ala Phe Ser Val Ile Cys Ala Ser Ala Ile Ile Val  
 65 70 75 80  
 Gln Phe Leu Leu His Lys Glu Ser Gln Gly Glu Thr Ser Lys Leu Cys  
 85 90 95  
 Cys Ala Ile Lys Asn Thr Trp Ser Ser Leu Trp Leu Ser Leu Leu Val  
 100 105 110  
 Ser Met Pro Phe Phe Ile Ala Met Val Ala Val Val Thr Val Ala Met  
 115 120 125  
 Leu Ser Ser Phe Leu Gly Ser Leu Pro Trp Val Gly Lys Leu Phe His  
 130 135 140  
 Thr Val Leu Ile Phe Ile Pro Tyr Leu Ser Ala Thr Ala Leu Ile Leu  
 145 150 155 160  
 Leu Phe Leu Gly Ser Phe Ser Cys Leu Phe Phe Cys Ile Pro Val Leu  
 165 170 175  
 His Asn Gln Glu Ser Ile Asp Tyr Arg Lys Leu Pro Arg Val Phe Ser  
 180 185 190  
 Trp Glu Tyr Pro Ser Ala Val Tyr Arg Gly Gly Asp Cys Phe Gly Ser  
 195 200 205  
 Xaa Ser Pro Met Gln Leu Val Ser Phe Arg Phe Phe Leu Phe Asp Asp  
 210 215 220

Thr Ser Cys

225

&lt;210&gt;1246

&lt;211&gt;78

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1246

Val Val Ile Ala Leu Val Pro Leu Ala Leu Cys Ser Trp Leu Ala Leu  
 1 5 10 15  
 Asp Ser Phe Tyr Leu Met Thr His Leu Val Glu Ile Ala Asp Ile His  
 20 25 30  
 Thr Trp Ser Phe Leu Ala Gln Met Phe Val Leu Ile Val Pro Ile Ala  
 35 40 45  
 Leu Ile Leu Thr Pro Ala Val Ser Phe Phe Phe Asn Phe Ser Phe Ser  
 50 55 60  
 Phe Tyr Leu Ala Lys Gln Glu Glu Glu Lys Ala Leu Val Lys  
 65 70 75

&lt;210&gt;1247

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1247

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Leu Arg Ala Phe Phe Pro Val Lys Ala Trp Arg Ser Pro Glu Asp Ile
 1           5           10           15
Pro Glu Ala Pro Ser Pro Lys Gly Ile Ser Lys Arg Ser Ile Val
           20           25           30
Ala Val Pro Trp Glu Trp Arg Ser Arg Cys Gln Val Thr Glu Ser Pro
           35           40           45
Ala Tyr Pro Ala Pro Lys Thr Ala Ile Arg Ile Lys Cys Thr Leu Asn
           50           55           60
Gln Val Ser Leu His Arg Pro Cys Leu Glu Asn Lys Arg Ile Arg Asp
           65           70           75           80
Lys Arg Thr Gly Gly Asn Leu Ser Asp Trp Glu Ile Lys Met
           85           90

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&lt;210&gt;1248

&lt;211&gt;86

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1248

```

Met Arg Ile Ala Val Leu Gly Ala Gly Tyr Ala Gly Leu Ser Val Thr
 1           5           10           15
Trp His Leu Leu Leu His Ser Gln Gly Thr Ala Thr Ile Asp Leu Phe
           20           25           30
Asp Pro Ile Pro Leu Gly Glu Gly Ala Ser Gly Met Ser Ser Gly Leu
           35           40           45
Leu His Ala Phe Thr Gly Lys Lys Ala Leu Lys Pro Pro Leu Val Gly
           50           55           60
Ser Arg Asn Gln Cys Tyr Thr Arg Val Asn His Xaa Ala Leu Val Lys
           65           70           75           80
Pro Ser Thr Tyr Leu Leu
           85

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&lt;210&gt;1249

&lt;211&gt;232

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1249

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Leu Pro Met Asn Thr Ser His Arg Lys Thr Leu Val Phe Ser Tyr Leu
 1           5           10           15
Ser Ser Thr Phe Thr Leu Leu Leu Val Leu Ser Asn Leu Val Leu Ser
           20           25           30
Ser Lys Leu Ile Pro Thr Thr Phe Asn Phe Ile Ile Pro Gly Gly
           35           40           45
Leu Ile Leu Tyr Pro Leu Thr Phe Leu Ile Ser Asp Val Val Asn Glu
           50           55           60
Ile Phe Gly Pro Lys Lys Ala Arg Val Met Ile Phe Ser Ala Phe Ile
           65           70           75           80
Ala Asn Leu Leu Ala Ser Ser Ile Val Gln Ile Phe Met Phe Phe Pro
           85           90           95
Val Ala Ser Pro Glu Met Gln Thr Ala Trp His Cys Leu Phe Asp Leu
           100          105          110
Ser Pro Leu Arg Phe Leu Ala Ser Leu Leu Ala Phe Ile Val Ser Gln
           115          120          125
Gln Leu Asp Ile Val Leu Tyr Thr Phe Phe Lys Asn Arg Thr Pro Asn
           130          135          140
Ser Ser Leu Trp Leu Arg Ser Asn Gly Ser Thr Trp Ile Ser Gln Xaa
           145          150          155          160
Pro Asp Thr Phe Ile Val Asp Thr Cys Ile Leu Tyr Phe Gly Met Gly
           165          170          175
Leu Ser Phe Pro Gln Thr Leu Asn Ile Met Phe Tyr Ser Tyr Ile Tyr
           180          185          190
Lys Ile Thr Phe Cys Val Leu Thr Thr Pro Leu Phe Tyr Leu Ala Val

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195 200 205  
 Asn Thr Ile Arg Lys Phe Leu Gly Met Pro Ser Thr Lys Ile Ala Asn  
 210 215 220  
 Thr Val Pro Leu Ile Asn Gln Pro  
 225 230  
 <210>1250  
 <211>103  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1250  
 Met Thr Pro Lys Ser Ile Gln Gln Leu His Leu Ile Lys Thr Ile Asp  
 1 5 10 15  
 Pro Val Arg Lys Ile Ser Pro Val Thr Thr Lys Lys Ser Ser Phe Phe  
 20 25 30  
 Arg Gln Ser Leu Leu Arg Phe Leu Glu Leu Phe Trp Met Phe Leu Tyr  
 35 40 45  
 Cys Ile Arg Ser Ile Arg Phe His Cys Val His Ile Ala Thr Phe Ile  
 50 55 60  
 Cys Arg Gly Leu Ile Leu Phe Leu Thr Thr Leu Phe Leu Ser Met Ile  
 65 70 75 80  
 Cys Ile Leu His Phe Ile Thr Leu Pro Trp Ile Cys Lys Glu Asp Pro  
 85 90 95  
 Arg Ile Ile Arg Lys Asn Lys  
 100  
 <210>1251  
 <211>79  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1251  
 Leu Asn Phe Ala Lys Ile Asp His Asn His Leu Tyr Leu Thr Cys Leu  
 1 5 10 15  
 Gly Asp Leu Gly Val Ala Cys Pro Ile Leu Ser Thr Asp Cys Leu Pro  
 20 25 30  
 Asn Tyr Ser Glu Lys Ala Ser His Glu Val Leu Val Tyr Ser Lys Phe  
 35 40 45  
 Arg Cys Ile Ser Gly Glu Pro Ser Arg Leu Ala Thr Ser Gly Asn Asp  
 50 55 60  
 Thr Tyr Tyr Ser Ile Val Ser Leu Pro Ile Gly Leu Arg Tyr Glu  
 65 70 75  
 <210>1252  
 <211>85  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1252  
 Met Val Glu Ile His His Lys Asp Pro Ser Leu Lys Lys Leu Phe Ala  
 1 5 10 15  
 Leu Gln Gln Ser Leu Glu Thr Leu Asn Ser Leu Ser Asp Ile Val Ala  
 20 25 30  
 Thr Tyr Glu Ala Met Phe Ser Leu Ile Tyr Glu Gly Leu Asn Lys Ala  
 35 40 45  
 Leu Arg Lys Asp Gln Leu Cys Tyr Leu Leu Ser Val Asn Ser Lys Gly  
 50 55 60  
 Glu Leu Leu Lys Ser Pro Ser Gly Asp Pro Ile Val Gln Thr Phe Pro  
 65 70 75 80  
 Ile His Pro His His  
 85  
 <210>1253  
 <211>75  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1253  
 Met Glu Glu Val Pro Phe Glu Asn Ala Met Gln Arg Leu Glu Glu Ile  
 1 5 10 15  
 Val Asp Leu Met Asn Gln Pro Thr Thr Ser Leu Asp Ala Ser Leu Ala

20 25 30  
 Leu Tyr Glu Glu Ala Asp Ala Leu Met Arg Ile Cys Glu Ser Arg Ile  
 35 40 45  
 Arg Gln Val Glu Gln Arg Val Arg Glu Leu Ala Glu Lys Arg His Glu  
 50 55 60  
 Ser Ser Leu Phe Glu Glu Gln Ala Val Val Arg  
 65 70 75

&lt;210&gt;1254

&lt;211&gt;126

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1254

Met Tyr Ile Ser Ser Ser Phe Ser Ser Ser Ala Lys Val Ser Ala Ile  
 1 5 10 15  
 Cys Leu Ala Ser Ile Cys Ser Lys Val Ser Ser Arg Phe Leu Ser Asn  
 20 25 30  
 Asn Ile Asn Pro Lys Thr Asn Arg Thr Thr Pro Arg Glu Ile Val Leu  
 35 40 45  
 Ile Pro Asn Pro Gln Thr Met Ser Ala Leu Asn Pro Glu Ile Thr Pro  
 50 55 60  
 Leu Ser Thr Ile Ala Pro Gln Thr Thr Arg Arg Met Pro Thr Thr Asn  
 65 70 75 80  
 Lys Val Ile Pro Arg Ala Arg Asp Leu Leu Ser Leu Gly Ile Thr Asn  
 85 90 95  
 Phe Val Ser Ser Gly Gly Val Gly Asp Thr Cys Arg Ile Ala Gly Ala  
 100 105 110  
 Ala Val Met Ile Glu Tyr Gln Asn His Lys Arg Asn Ile Asp  
 115 120 125

&lt;210&gt;1255

&lt;211&gt;81

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1255

Met Glu Ser Lys Lys Val Ser Lys Leu Ala Ser Asn Ser Thr Phe Phe  
 1 5 10 15  
 Leu Ala Ser Val Ser Cys Leu Gly Ser Thr Val Pro Pro Tyr Arg Ala  
 20 25 30  
 Leu Arg Ser Leu Thr Arg Val Ser Thr Ser Ser Cys Phe Phe Arg Lys  
 35 40 45  
 Asn Phe Val Leu Ala Ser Ser Arg Arg Ser Thr Lys Ser Asp Lys Ser  
 50 55 60  
 Phe Leu Phe Ala Ser Val Asp Ser Phe Glu Leu Ser Ser Arg Ser Phe  
 65 70 75 80  
 Ser

&lt;210&gt;1256

&lt;211&gt;80

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1256

Leu Leu Gly Met Cys Thr Leu Leu Leu Ile Pro Lys Gln Leu Arg Leu  
 1 5 10 15  
 Leu Ile Leu Thr Lys Cys Leu Ser Ile Thr Leu Ser His Thr Leu Ile  
 20 25 30  
 His Thr Arg Leu Gln Gly Ser Lys Cys Leu Phe Lys Gly Arg Leu Arg  
 35 40 45  
 His Thr Ile Asn Met Pro Ile Lys Ser His Gly Tyr Leu Pro Tyr Val  
 50 55 60  
 Thr Ser Arg Ser His Lys Ala Ile His Asn Leu Thr Ser Arg Phe Leu  
 65 70 75 80

&lt;210&gt;1257

&lt;211&gt;87

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae



&lt;400&gt;1257

Gly Ser Thr Phe Ala Asn Leu Ser Leu His Leu Leu Tyr Cys Thr Lys  
 1 5 10 15  
 Ala Leu Val Asn Ala Cys Phe Ile Gly Trp Ser Gly Arg Ser Ala Ile  
 20 25 30  
 Arg Ser Ile Ile Ser Ile Ser Ser Thr Arg Gly Arg Val Ser Ser Ile  
 35 40 45  
 Ser Ser His Lys Thr Leu Arg Arg Phe Ala Ala Ser Glu Ser Met Val  
 50 55 60  
 Tyr Ser Ile Ser Ser Val Ala Ser Leu Ser Thr Pro Lys Ala Lys Val  
 65 70 75 80  
 Ser Ala Phe Asp Asn Leu Leu  
 85

&lt;210&gt;1258

&lt;211&gt;81

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1258

Met His Pro His Ser Lys Cys Arg Phe Leu Gly Phe Ser Cys Phe Lys  
 1 5 10 15  
 Lys Leu Ser Ile Ala Gly Thr Asn Val Leu Leu Ile Lys Glu Asp Phe  
 20 25 30  
 Pro Asp Pro Glu Thr Pro Val Thr Pro Ile Ser Arg Ala Asn Gly Arg  
 35 40 45  
 Arg Ile Glu Arg Phe Leu Arg Leu Trp Ile Val Ala Ser Val Ser Lys  
 50 55 60  
 Ser Gln Asp Val Gly Ala Ser Arg Asp Ser Gly Met Gly Met Val Ser  
 65 70 75 80  
 Ser

&lt;210&gt;1259

&lt;211&gt;107

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1259

Met Ile Ala Pro Ser Leu Pro Ala Leu Leu Ala Ile Cys Phe Asn Gly  
 1 5 10 15  
 Ala Val Asn Ala Phe Arg Ile Ile Arg Val Pro Ile Ala Ser Ser Ser  
 20 25 30  
 Phe Ala Ser Ile Gly Arg Lys Ala Ser Ser Val Gly Ile Gln Arg Thr  
 35 40 45  
 Lys Ala Val Pro Pro Pro Gly Arg Ile Pro Ser Ser Thr Ala Ala Met  
 50 55 60  
 Val Ala Cys Cys Ala Ser Thr Leu Ser Phe Phe Ser Phe Ile Ser  
 65 70 75 80  
 Ile Ser Val Ala Ala Pro Thr Arg Ile Thr Ala Thr Pro Pro Glu Ser  
 85 90 95  
 Leu Ala Lys Arg Ser Trp Ser Phe Ser Leu Ser  
 100 105

&lt;210&gt;1260

&lt;211&gt;76

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1260

Leu Pro Pro Ala Leu Gln Val Leu Tyr Met Lys Ser Leu Asp Asn Ala  
 1 5 10 15  
 Asn Leu Glu Ile Leu His Lys Ile Phe Gln Val Gln Val Glu Ala Asn  
 20 25 30  
 Glu Leu Pro Leu Gln Met Leu His Glu Thr Thr Pro Lys Ala Leu Leu  
 35 40 45  
 Gln Gly His Ala Ala Phe Ser Asp Gln Asn Glu Leu Glu Ile Ser  
 50 55 60  
 Tyr Thr Tyr His Lys Leu Thr Ser Tyr Lys Glu Ala  
 65 70 75

&lt;210&gt;1261

&lt;211&gt;76

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1261

```

Met Cys Asn Arg Cys Lys Asp Ser Ser Thr Ser Leu Val Phe Ser Thr
 1           5           10           15
Cys Leu Gly Thr His Lys Thr Glu Thr Pro Ser Phe Ile Asn Phe Cys
           20           25           30
Thr Thr Gly Ser His Phe Pro Ala Ser Leu Leu Cys Ile Glu Pro Arg
           35           40           45
Ile Thr Asn Phe Glu Ser Val Gly Asn Leu Lys Arg Ser Leu Gln Val
           50           55           60
Ser Leu Ser Lys Cys Ser Ala Val Cys Ala Ala Thr
           65           70           75

```

&lt;210&gt;1262

&lt;211&gt;80

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1262

```

Met Leu Asn His Gln Gln His Lys Val Val Ser Ile Ser Gln Phe His
 1           5           10           15
Gln Gln Arg Gln Leu Val His Lys Lys Asn Trp Arg Arg Gly Ser Thr
           20           25           30
Thr His Lys Glu Cys Ala Thr Asp Ala Lys Ile Leu Gln His Pro Trp
           35           40           45
Ser Phe Gln Arg Val Leu Ala Pro Ile Lys Leu Arg Pro Pro Leu Leu
           50           55           60
Leu Ile Ser Ala Leu Gln Glu Ala Ile Phe Leu His His Phe Tyr Ala
           65           70           75           80

```

&lt;210&gt;1263

&lt;211&gt;112

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1263

```

Met Ile Arg Leu Trp Ser Cys Ser Ser Ile Lys Ile Glu Thr Val Pro
 1           5           10           15
Tyr Ser Lys Glu Ile Ala Tyr Cys Arg Trp Tyr Ser Asn Thr Thr Leu
           20           25           30
Ser Tyr Trp Ile Leu Ile Arg Glu Lys Cys Arg Pro Thr Lys Lys Ser
           35           40           45
Ala Ser Ser Arg Phe Leu Thr Lys Asn Asn Asn Ile Val His His Met
           50           55           60
Ser Ser Gln Lys Leu Phe Ala Phe Gln Ala Lys Ile Phe Val Ala Phe
           65           70           75           80
Phe Phe Gln Lys Asn Ile Phe Tyr Gln Phe Phe Phe Phe Arg Met Thr
           85           90           95
Cys Lys Val Lys Arg Ser Ile Phe Gln Glu Glu Phe Cys Arg Pro Ile
           100           105           110

```

&lt;210&gt;1264

&lt;211&gt;148

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1264

```

Ser Gly Arg Ile Ile Ser Val Met Leu Ser Ala Pro Pro Cys Glu Leu
 1           5           10           15
His Ser Asp Leu Ile Asp Pro Asp Leu Phe Glu Phe Asn His Arg Leu
           20           25           30
Asn Ile Cys Ile Ser Ala Glu Val Arg Gly Arg Val Thr Thr His Thr
           35           40           45
Phe Arg Gly Asp Ser Cys Asn Met Ser Phe Asn Cys Ser Val Arg Gly
           50           55           60
Asn Val Ile Thr Ile Pro Arg Ile Ile Arg Ile Glu Ile Arg Ser Leu
           65           70           75           80

```

Thr Ser Ser Phe Ser Ile Thr Lys Cys Lys Arg Ile Ser Ser Arg  
 85 90 95  
 Leu Arg Ile Thr Asn Ile Ile Ala Tyr Trp Ser Leu Arg Tyr Val Cys  
 100 105 110  
 Leu Arg Ile Asp Ile Lys Thr Val Arg Glu Cys Ser Ser Ile Lys Leu  
 115 120 125  
 Arg Thr Phe Arg Arg His Ile Thr Leu His Asn Lys Phe Thr Trp Arg  
 130 135 140

Ser Arg Gly Ile  
 145

<210>1265

<211>130

<212>PRT

<213>Chlamydia pneumoniae

<400>1265

Ser Phe Phe Ser Phe Arg Lys Val Pro Asn Phe Ser Asn Gln Pro Met  
 1 5 10 15  
 Cys Phe Leu Ile Arg Ser Cys Trp Ser Ala Ser Ile Asn Ala Trp Arg  
 20 25 30  
 Gly Asp Arg Phe Cys Asp Ser Ser Leu Ser Asn His Asp His Met Val  
 35 40 45  
 Cys Asn Arg Asn Met Pro Ser Asn Ser Gly Leu Pro Ser Asn Asp Asp  
 50 55 60  
 Met Phe Thr Asn Phe Cys Arg Thr Cys Asn Ala Cys Leu Gly Asn Asn  
 65 70 75 80  
 Asn Thr Met Leu Ser Asn Phe Tyr Val Met Ser Tyr Leu Tyr Leu Val  
 85 90 95  
 Ile Tyr Phe Ser Ser Phe Met Asp His Gly Val Leu Glu Ser Thr Thr  
 100 105 110  
 Ile Tyr Arg Ser Val Gly Ser Asp Phe Tyr Ile Ile Thr Tyr Asn His  
 115 120 125

Ile Ala

130

<210>1266

<211>78

<212>PRT

<213>Chlamydia pneumoniae

<400>1266

Glu Ala Val Phe Val Ser Gly Lys Lys Asp Gly Val Arg Gly Met Ile  
 1 5 10 15  
 Phe Val Pro Leu Ser Ile Leu Val Leu Ile Phe Leu Pro Leu Pro Gln  
 20 25 30  
 Ile Leu Leu Asp Phe Gly Leu Cys Ile Ser Phe Ala Leu Ser Leu Leu  
 35 40 45  
 Thr Val Cys Trp Val Phe Thr Leu Asn Ser Ser Asn Ser Ala Lys Phe  
 50 55 60  
 Phe Leu His Phe Ser Tyr Ile Phe Ala Tyr Cys Gly Trp Asp  
 65 70 75

<210>1267

<211>74

<212>PRT

<213>Chlamydia pneumoniae

<400>1267

Leu Cys Thr Asp Ser Thr Ser Ile Ser Cys Cys Ser Ile Ile Ile Glu  
 1 5 10 15  
 Gly Cys Asn Ser Trp Val Val Phe Tyr Arg Thr Thr Asn Ala Ile Asp  
 20 25 30  
 Ser Pro Ser Arg Gly Met Val Ser Arg Asp Val Arg Phe His Gly Lys  
 35 40 45  
 Ile Ile Val Glu Asp His Arg Thr Gly Ile Leu Cys Lys Asn Ala Leu  
 50 55 60  
 Leu Met Tyr Ser Tyr Cys Thr Thr Gln Thr  
 65 70

<210>1268

&lt;211&gt;90

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1268

```

Met Gly Ala Glu Ile Glu Ile Ser Gly Val Leu Asp Ser Glu Leu Ser
 1      5      10      15
Leu Val Leu Ala Pro Cys Leu Cys Ala His Pro Thr Lys Ala Phe Ile
      20      25      30
Asn Gly Glu Ser Ser Arg Gly Leu Pro Phe Leu Arg Gly Thr Ser Cys
      35      40      45
Gly Glu Pro Val Leu Ser Val Ser Ser Ile Ser Glu Gly Asp Pro Thr
      50      55      60
Asp Ile Glu Ser Ser Ser Glu Glu Val His Ser Ser Pro Arg His Val
      65      70      75      80
Gln Gln Arg Pro Thr Ala Ser Ala Ala Ala
      85      90

```

&lt;210&gt;1269

&lt;211&gt;184

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1269

```

Phe Phe Val Phe Thr His Val Trp Tyr Leu Ile Ser Arg Gly Tyr Phe
 1      5      10      15
Tyr Ser Leu Phe Ser Leu Gly Val Gly Ala Leu Ala Thr Leu Thr Leu
      20      25      30
Ala Thr Arg Ile Gly Arg Ser Pro Ile Leu Tyr Pro Phe Ala Asn Ser
      35      40      45
Ser Lys Ile Val Pro Ser Gly Thr Ser Glu Val Ser Ser Val Cys Thr
      50      55      60
Ala Ser Cys Arg Lys Gly Leu Asn Phe Trp Pro Ile Glu Glu Tyr Ser
      65      70      75      80
Ile Ile Pro Phe Ser Ser Lys Ile Cys Leu Asn Trp Leu Arg Ile Met
      85      90      95
Leu Asn Pro Arg Ala Gln Phe Phe Thr Ser Ser Asp Ile Cys Val Ala
      100      105      110
Asn Pro Arg Ala Phe Ser Met Leu Ser Met Gly Leu Arg Lys Ser Ile
      115      120      125
Lys Val Phe Ser Lys Ala Tyr Cys Ile Ser Ser Trp Arg Ser Phe Cys
      130      135      140
Lys Arg Phe Leu Glu Phe Ser Asp Ser Ala Arg Ala Met Arg Tyr Leu
      145      150      155      160
Ser Phe Phe Ser Phe Asn Ser Val Phe Arg Val Thr Ile Ser Cys Cys
      165      170      175
Lys Cys Ser Thr Ser Phe Ser Phe
      180

```

&lt;210&gt;1270

&lt;211&gt;98

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1270

```

Leu Ile Ser Val Glu Glu Thr Pro Glu Ser Ser Ile Phe Ala Phe Ser
 1      5      10      15
Ala Ala Ser Leu Ser Leu Cys Lys Ala Ile Leu Ser Leu Leu Arg Ser
      20      25      30
Met Pro Ser Cys Phe Leu Asn Ser Ser Ile Ile His Leu Ile Met Thr
      35      40      45
Ser Ser Lys Ser Ser Pro Pro Arg Arg Val Ser Pro Phe Val Asp Arg
      50      55      60
Thr Ser Lys Thr Pro Ser Pro Ile Ser Arg Met Glu Ile Ser Lys Val
      65      70      75      80
Pro Pro Pro Arg Ser Lys Thr Ala Ile Phe Leu Ser Pro Thr Leu Ser
      85      90      95
Ile Pro

```

&lt;210&gt;1271

&lt;211&gt;78

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1271

```

Phe Leu Lys Thr Met Thr Lys Gly Phe Ala Phe Cys Ser Ala Ser Phe
 1           5           10           15
Pro Ile Ala Ile Ile Glu Asn Val Val Ser Lys Ser Val Glu Gly Val
           20           25           30
Ser His Pro Glu Gly Glu Asn Ala Asn Pro Ser Leu Leu Ser Leu Val
           35           40           45
Met Ala Ser Trp Thr Leu Gly Gly Thr Ser Thr Ser Ser Leu Asn Lys
           50           55           60
Ala Leu Ala Lys Val Leu Ile Ser Ser Gly Asp Val Phe Pro
 65           70           75

```

&lt;210&gt;1272

&lt;211&gt;122

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1272

```

Met Thr Thr Gly Ser Cys Ser Pro Ser Lys Ala Leu Phe Val Cys Ile
 1           5           10           15
Asn Cys Ile Ala Phe Ile Glu Met Ser Thr Asn Thr Thr Glu Ala Ala
           20           25           30
Pro Arg Leu Arg Ala Ser Lys Pro Ile Ala Pro Ile Pro Ala Lys Arg
           35           40           45
Ser Lys Lys Ala Ala Pro Ser Ile Ser Ser Leu Gln Ile Leu Lys Asn
           50           55           60
Ala Ser Phe Thr Lys Pro Glu Val Gly Arg Ile Cys Gly Leu Glu Asn
 65           70           75           80
Val Phe Lys Asp Phe Pro Leu Tyr Leu Pro Ala Lys Ile Leu Thr Ser
           85           90           95
Pro Leu Glu Glu Gln Ser Leu Arg Asn Gln Gln Pro Leu Val Cys Ser
           100           105           110
Gly Ser Leu Gly Tyr Tyr Arg Ile His Leu
           115           120

```

&lt;210&gt;1273

&lt;211&gt;112

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1273

```

Phe Thr Phe Phe Phe Leu Ala Gln Leu Glu Lys Gln Leu Pro His Leu
 1           5           10           15
Val Leu Phe Phe Phe Ser Ala Thr Ser Ser Leu Arg Ala Ser Phe
           20           25           30
Ile His Ser Ser Leu Trp Ser Arg Val Phe Ser Ser Ser Phe Leu Arg
           35           40           45
Phe Ala Lys Phe Thr Ser Ala Phe Ser Ser Ser Leu Glu Ala Ala Ser
           50           55           60
Thr Thr Ser Phe Cys Leu Leu Thr Phe Ser Ser Ser Glu Ser Cys
 65           70           75           80
Thr Ala Thr Thr Leu Met Tyr Asp Phe Ile Cys Lys Thr Ala Ser Leu
           85           90           95
Val Val Pro Ser Ser Asn Lys Ser Arg Ser Cys Trp Ile Phe Cys Ile
           100           105           110

```

&lt;210&gt;1274

&lt;211&gt;82

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1274

```

Leu Ser Ala Lys Leu Met Lys Thr Ser Leu Gly Val Cys Val Gly Ile
 1           5           10           15
Ala Gly Ile Ser Lys Gly Arg Cys Leu Ile Asn Ala Lys Ser Pro Phe
           20           25           30

```

Ser Leu Lys Ile      Glu Arg Ser Glu Arg Glu Arg Val Trp Arg Ser  
                     35                      40                      45  
 Tyr Val Tyr Ser Val Asp Val Gly Pro Gly Val Phe Leu Met Met Thr  
                     50                      55                      60  
 Ser Lys Arg Glu Arg Leu Phe Pro Arg Arg Ile Ala Val Thr Thr Pro  
                     65                      70                      75                      80  
 Glu Thr

&lt;210&gt;1275

&lt;211&gt;134

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1275

Met Asn Ser Pro Thr Ile Lys Asp Pro Ser Leu Glu Thr Ala Cys Ala  
                     1                      5                      10                      15  
 Asp Asp Leu Leu Ala Pro Gly Ile Leu Glu Ser Arg Cys Cys Ser Pro  
                     20                      25                      30  
 Ser Phe Gln Tyr Thr Ala Leu Ala Ile Ser Ser Leu Pro Met Ala Ser  
                     35                      40                      45  
 Pro Thr Ile Thr Glu Pro Ser Ser Glu Ala Ser Gln Ala Gln Glu Cys  
                     50                      55                      60  
 Arg Ser Ser Gly Lys Leu Gly Arg Thr Thr Ile Pro Val Ser Ser His  
                     65                      70                      75                      80  
 Phe Thr Ala Lys Phe Val Ser Val Ser Ser Leu Tyr Arg His Pro Thr  
                     85                      90                      95  
 Ile Val Phe Pro Ser Leu Glu Thr Pro Ser Ala Lys Asp Cys Ile Pro  
                     100                      105                      110  
 Ser Glu Asn Ile Pro Arg Ser Thr Ser Ala Pro Phe Thr His Phe Thr  
                     115                      120                      125  
 Ala Arg Gln Asp Gly Ser  
                     130

&lt;210&gt;1276

&lt;211&gt;84

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1276

Met Arg Ser Trp Thr Arg Trp Thr Arg Cys Gly Ser Cys Cys Arg Cys  
                     1                      5                      10                      15  
 Ser Gly Ser Trp Arg Cys Ser Arg Ser Cys Cys Arg Asn His Gly Ser  
                     20                      25                      30  
 Asn Thr Asn Tyr Ser Ser Ser Cys Cys Pro Ser Gly Glu Thr Ser Cys  
                     35                      40                      45  
 Tyr His Ser Cys Gln Thr Ser Asp His Arg Gly Tyr Lys Ser Gly Cys  
                     50                      55                      60  
 Gln Ile Trp Asn Lys Ser Ile Tyr Gln Asn Phe Ser Gln Ser Asp Cys  
                     65                      70                      75                      80  
 Gln Ser His Phe

&lt;210&gt;1277

&lt;211&gt;76

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1277

Met Arg Glu Phe Ser Cys Ile Lys Asp Arg Lys Asn Arg Cys Phe Arg  
                     1                      5                      10                      15  
 Ala Ala Ala Val Lys Ile Met Cys Thr Pro Ser Arg Ser Ser Ala Arg  
                     20                      25                      30  
 Thr Thr Arg Pro Lys Glu Val Lys Lys Arg Thr Ser Leu Glu Tyr Ile  
                     35                      40                      45  
 Gln Ser Ile Trp Asp Leu Gly Pro Leu Asp Val Tyr Ser Cys Phe Ser  
                     50                      55                      60  
 Lys Glu Thr Ser Ser Glu Leu Tyr Ala Lys Arg Phe  
                     65                      70                      75

&lt;210&gt;1278

<211>78  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1278  
 Met Met Ile Val Arg Cys Cys Phe Arg Ala Leu Leu Cys Phe Ser Met  
           1                  5                  10                  15  
 Cys Ser Arg Thr Ser Arg Pro Arg Ser Pro Ile Lys Ala Ile Thr Leu  
                   20                  25                  30  
 Ile Val Asp Phe Asp Pro Lys Ala Ile Ala Glu Ser Ser Glu Asp Phe  
                   35                  40                  45  
 Pro Leu Pro Gly Ser Glu Lys Thr Pro Ile Arg Cys Pro Phe Pro Lys  
                   50                  55                  60  
 Val Arg Asn Ala Ser Ile Ala Leu Ile Pro Val Gly Lys Ile  
           65                  70                  75

<210>1279  
 <211>86  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1279  
 Met Arg Arg Ile Phe Pro Thr Ser Ile Leu Leu Ile Ala Thr Phe Cys  
           1                  5                  10                  15  
 Lys Leu Pro Ser Ser Lys Thr Ser Gln Pro Val Val Gly Ala Ser Cys  
                   20                  25                  30  
 Phe Lys Glu Thr Lys Val Leu Phe Ala Phe Pro Asp Thr Ile Cys Pro  
                   35                  40                  45  
 Asn Ala Ser Glu Ile Ala Asn Lys Thr Arg Ser Lys Ala Pro Ser Lys  
                   50                  55                  60  
 Ala Pro Pro Ile Lys Ile Glu Pro Lys Gly Ala Asp Val Ile Lys Ile  
           65                  70                  75                  80  
 Ser Met Phe Thr Thr Phe  
                                   85

<210>1280  
 <211>124  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1280  
 Val Lys Gly Val Leu Lys Arg Gln Arg Leu Ser Leu Thr Met Gly Gly  
           1                  5                  10                  15  
 Arg Ser Lys Leu Lys Arg Arg Ser Trp Leu Lys Ala Ala Gln Thr Thr  
                   20                  25                  30  
 Pro Val Val Cys Trp Arg Arg Asn Val Ile Phe Ser Thr Val Ile Phe  
                   35                  40                  45  
 Ser Pro Ala Ile Ile Arg Ser Pro Ser Ser Ser Leu Glu Ala Ser Ser  
                   50                  55                  60  
 Thr Thr Ile Thr Asn Phe Pro Ala Leu Lys Ser Ser Ile Ala Arg Ser  
           65                  70                  75                  80  
 Lys Glu Thr Lys Phe Ala Glu Pro Thr Ser Ser Arg Val Ser Ile Ile  
                                   85                  90                  95  
 Asp Ser Leu Ala Leu Thr Asp Ser Asp Ala Lys His Ala Thr Leu Lys  
                   100                  105                  110  
 Ile Leu Ser Phe Gln Phe Leu Met Gly Ser Lys Thr  
           115                  120

<210>1281  
 <211>85  
 <212>PRT  
 <213>Chlamydia pneumoniae  
 <400>1281  
 Ile Gln Arg Thr Leu Cys Leu Leu Phe Phe Lys Lys Phe Ile Leu Leu  
           1                  5                  10                  15  
 Ile Leu Val Arg Thr Leu Arg Phe Pro Ile Leu Thr Phe Leu Ser Trp  
                   20                  25                  30  
 Leu Asn Phe Arg Leu Lys Leu Ile Phe Ser Leu Ile Leu Tyr Gly Leu  
                   35                  40                  45  
 Ala Asn Val Ala Gln Leu Val Arg Ala Ser Asp Cys Gly Ser Glu Gly

50                      55                      60  
 Arg Gly Phe Lys Pro Arg Arg Ser Pro Ser Leu Ser Ser Leu Phe Leu  
 65                      70                      75                      80  
 Leu Phe Phe Leu Ile  
                                  85

&lt;210&gt;1282

&lt;211&gt;112

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1282

Val Leu Tyr Asn Pro Lys Ala Phe Ile Thr His Ala Ala Ser Leu Arg  
 1                      5                      10                      15  
 Gln Thr Phe Val His Cys Glu Arg Phe Ser Thr Ala Ala Ser Arg Arg  
                          20                      25                      30  
 Ser Leu Gly Ser Val Ser Val Pro Val Leu Ala Val Asn Leu Ser Ile  
                          35                      40                      45  
 Arg Leu Asp Val Ile Ala Leu Val Gly Phe Tyr Pro Thr Asn Lys Leu  
                          50                      55                      60  
 Ile Ser His Lys Leu Phe Leu Asn Arg Lys Val Arg Arg Ser Pro Ser  
 65                      70                      75                      80  
 Leu Ile Tyr Ile Arg Cys Leu Ile Thr Leu His Ser Val Leu Ala Ile  
                                  85                      90                      95  
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&lt;210&gt;1283

&lt;211&gt;77

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1283

Leu Glu Ser Gly Leu Pro Arg Phe Arg Leu Gly Phe Thr Cys Leu Ala  
 1                      5                      10                      15  
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                          20                      25                      30  
 Ser Pro Cys Ile Val Gln Leu Ser Arg Ser Ile Gln Leu Lys Leu Lys  
                          35                      40                      45  
 Ile Pro Cys Tyr Arg Pro Tyr Asn Pro Ile Leu Lys Ile Trp Phe Arg  
                          50                      55                      60  
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 65                      70                      75

&lt;210&gt;1284

&lt;211&gt;85

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1284

Met Ile Tyr Gln Asn Gly Ile Gly Val Trp Asn Ile Asn Pro Val Phe  
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 Tyr Gln Cys Ser Ser Asn Glu Asp Val Gly Phe Leu Ile Phe Glu Phe  
                          20                      25                      30  
 Arg Lys Asp Ile Arg Glu Val Leu Ser Ser His Leu Thr Met Ser Tyr  
                          35                      40                      45  
 Ala Asn Thr Ser Leu Arg Asn Gln Ile Ala Asn Gly Leu Ser Lys Ser  
                          50                      55                      60  
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 65                      70                      75                      80  
 Lys Glu Leu Val Pro  
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&lt;210&gt;1285

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1285

Val Lys Leu Lys Leu Phe Ser Val Ile Ala Cys Ile Thr Phe Gln Lys  
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 Arg Asp Thr Leu Cys Ser Ile Tyr Thr Ile Gly Asp Phe Leu Gln Ile



20 25  
 Gln Ser Ile Asp Ser Ile Trp Val Met Asp Gln Asn Asn Leu Phe Phe  
 35 40 45  
 Tyr Lys Pro Trp Lys Lys Gly Lys Ser His Lys Asn Asn Cys Ile Leu  
 50 55 60  
 Gln Gly Phe Leu Gly Ile Asn Gly Phe Cys Leu His Glu Glu Ser Leu  
 65 70 75 80  
 Ser Cys Pro Arg Cys Ala Arg Thr Tyr His Trp Ile Phe Arg  
 85 90

&lt;210&gt;1286

&lt;211&gt;74

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1286

Met Gln Gln Ser Val Arg Lys Leu Phe Gly Thr Asp Gly Val Arg Gly  
 1 5 10 15  
 Arg Ala Asn Phe Glu Pro Met Thr Val Glu Thr Thr Val Leu Leu Gly  
 20 25 30  
 Lys Ala Val Ala Arg Val Leu Arg Glu Gly Arg Ser Gly Lys His Arg  
 35 40 45  
 Val Val Val Gly Lys Asp Thr Arg Leu Ser Gly Tyr Met Phe Glu Asn  
 50 55 60  
 Ala Leu Ile Ala Gly Ser Ile Leu Trp Gly  
 65 70

&lt;210&gt;1287

&lt;211&gt;88

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1287

Val His Phe Ser Asn Ser Ser Pro Phe Asn Val Trp Thr Leu Trp Leu  
 1 5 10 15  
 Ala Ala Cys Cys Thr Leu Ile Ala Arg Asn His Asn Thr Leu Ile Asn  
 20 25 30  
 Phe Gln Ile Leu Ile Leu Ser Trp Leu Leu Ile Thr Leu Ala Thr Phe  
 35 40 45  
 Ser Leu Gln Ile Phe Cys Lys Gly Asn Lys Val Leu Leu Ala Thr Gln  
 50 55 60  
 Thr Val Leu Gly Leu Phe Val Thr Ile Val Gly Thr Gln Leu Leu Val  
 65 70 75 80  
 Ser Gly Leu Gln Gln Ala Phe Leu  
 85

&lt;210&gt;1288

&lt;211&gt;119

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1288

Met Phe Arg Arg Lys Leu Ser Ile Leu Phe Gln Leu Ser Leu Thr Ser  
 1 5 10 15  
 Ser Met Val Arg Val Thr Ser Ser Cys Leu Ile Leu Lys Thr Ser Phe  
 20 25 30  
 Leu Tyr Ser Ala Thr Ala Arg Thr Ala Leu Ser Asp Asn Ser Cys Thr  
 35 40 45  
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 50 55 60  
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 65 70 75 80  
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 100 105 110  
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&lt;210&gt;1289

&lt;211&gt;126

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1289

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Met Val Ile Ile Phe Arg Leu Ser Ser Ser Leu Phe Ile Gly Arg Cys
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      20           25           30
Arg Glu Ile Ser Pro Ala Lys Lys Pro Ala Lys Ala Lys Ile Pro Pro
      35           40           45
Pro Leu Lys Ile Ala Thr Met Pro Ile Pro Ile Glu Thr Asn Gly Ala
      50           55           60
Ser Gln Pro Ile Met Ser Glu Arg Asp Pro His Asn Leu Ser Arg Phe
      65           70           75           80
Ser Phe Ser Met Leu Thr Leu Ile Val Ser Ile Leu Phe Ser Cys Arg
      85           90           95
Ala Ser Ser Ser Arg Cys Val Asp Ser Thr Glu Ser Leu Trp His Pro
      100          105          110
Tyr Glu Glu Lys Ser Glu Arg Ile Pro Cys Phe Val Ser Arg
      115          120          125

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&lt;210&gt;1290

&lt;211&gt;94

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1290

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      20           25           30
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      35           40           45
Phe Ile Thr Phe Trp Leu Ala Leu Pro Thr Ser Thr Ser Glu His Pro
      50           55           60
Gln Ser Leu Tyr Ser Trp Cys Pro Arg His Pro Arg Arg Glu Met Gly
      65           70           75           80
Arg Ser Ala His Glu Cys Arg Pro Asp Tyr Cys Cys Phe Ile
      85           90

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&lt;210&gt;1291

&lt;211&gt;98

&lt;212&gt;PRT

&lt;213&gt;Chlamydia pneumoniae

&lt;400&gt;1291

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      20           25           30
Pro Ala Asn Ala Asp Ser Gly Gly Asp Arg Met Gly Ser Val Arg Glu
      35           40           45
Ser Ser Thr Thr Thr Arg His Asp Tyr Phe Lys Asp Ser Ala Val Phe
      50           55           60
Glu Arg Phe Tyr Thr Gly Ile Tyr Arg Asn Asp Ile Pro Lys Glu Leu
      65           70           75           80
Phe Arg Lys Tyr Arg Cys Ile Arg Asp Asp Ile Lys Ile Phe Asp Phe
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